Access DB# 138791

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68274 Date: 11/30/04
Art Unit: 1756 Phone Number 571-272-1382 Serial Number: 10/734,380
Mail Box and Bldg/Room Location: REM 9C75 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.
****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Imaging Members

Inventors (please provide full names): SATCHIDANAND MISHRA, HOUY YUH, ANTHONY HORGAN, MARKUS SILVESTRI, ROBERT YU, YUHUA TONG, DALE RENFER, KENNY-TUAN DINH, GEOFF FOLEY, JACK YANUS, TIMOTHY FULLER

Earliest Priority Filing Date: 12/16/02

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

See formula (II) in claim 19.
See attached claim 19

****

STAFF USE ONLY

Searcher: EL
Searcher Phone #:
Searcher Location:
Date Searcher Picked Up:
Date Completed: 12-3-04
Searcher Prep & Review Time:
Clerical Prep Time:
Online Time:

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#)
Bibliographic
Litigation
Fulltext
Patent Family
Other

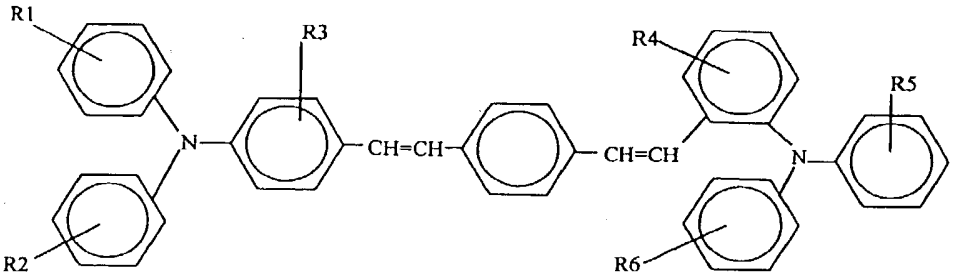
Vendors and cost where applicable

STN
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (8-01)

19. The imaging member of **claim 10**, wherein the high mobility charge transport molecules are of the formula

FORMULA (II)



wherein R1, R2, R3, R4, R5, and R6 are each independently selected from the group consisting of hydrogen, halogen, and an alkyl, an aryl, or a cyclo-alkyl group having 1 to 18 carbon atoms.

22. The imaging member of **claim 10**, wherein the binder is selected from the group consisting of polyesters, polyvinyl butyrals, polycarbonates, polystyrene, and polyvinyl formats.

23. An imaging member comprising

a supporting substrate,

an optional electrically conductive layer,

an optional hole blocking layer,

a charge generating layer,

a dual charge transport layer having a first (bottom) and a second (top) charge transport layer each of which is a solid solution comprising a hole mobility organic transport compound molecularly dispersed or dissolved in a film forming polymer binder,

wherein the first (bottom) charge transport layer comprises a hole mobility organic transport compound selected from the group consisting of triphenylmethane; bis(4-diethyamine-2-methylphenyl)phenylmethane; 4-4'-bis(diethylamino)-2,2'-dimethyltriphenylmethane; N,N'-diphenyl-N,N'-bis(3-methylphenyl)-[1,1'-biphenyl]-4,4'diamine; N,N'-diphenyl-N,N'-bis(4-methyl-phenyl)-[1,1'-biphenyl]-4,4'diamine; N,N'-diphenyl-N,N'-bis(alkylphenyl)- 1,1 -biphenyl-4,4'-diamine; N,N'-diphenyl-N,N'-bis(chlorophenyl)- 1,1 -biphenyl-

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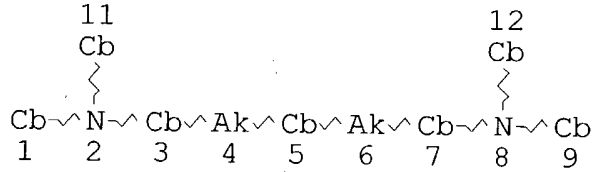


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GRAPH ATTRIBUTES:
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NUMBER OF NODES IS  11

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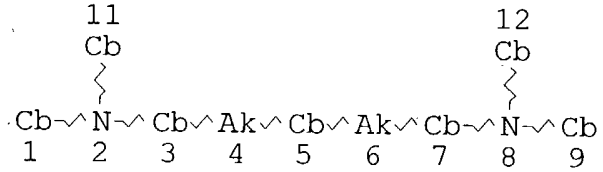

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GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
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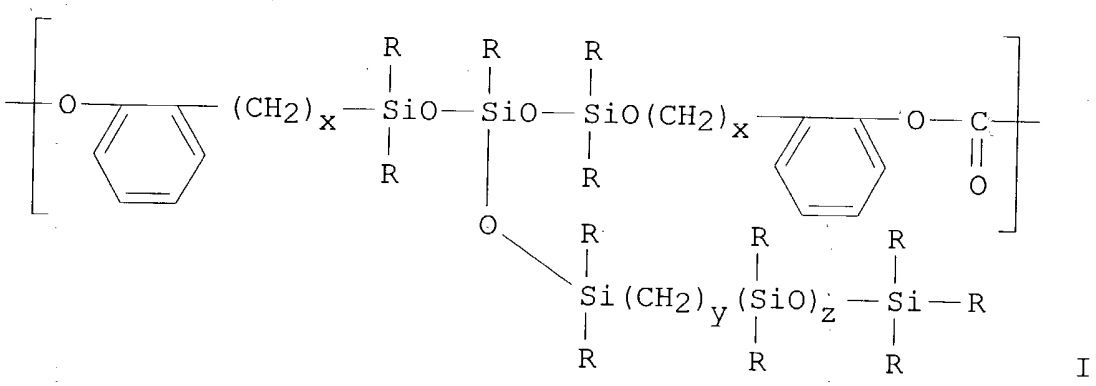
=> d l37 1-25 cbib abs hitstr hitind

L37 ANSWER 1 OF 25 HCA COPYRIGHT 2004 ACS on STN
140:383062 Electrophotographic organic photoreceptor and **image**

forming apparatus. Azuma, Jun; Ueda, Hiroyuki; Nagashima, Takashi; Watanabe, Yukimasa; Okada, Hideki; Inagaki, Yoshio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004133067 A2 20040430, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-295422 20021008.

GI



I

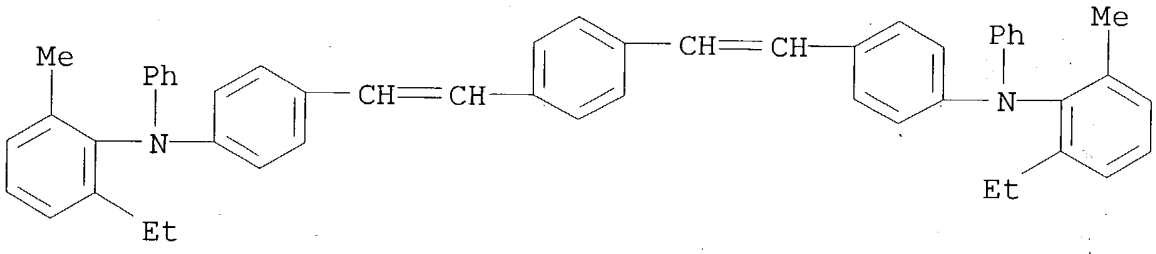
AB The app. comprises an org. photoreceptor and charging, exposing, developing, transferring, cleaning means, and an optional paper sepg. means adjacent to the transfer means, and neg. potential is applied to the transferring and/or the paper sepg. means, in which (1) the cleaning means is equipped with a fur brush made of polymer having pos. charging property to the binder resin in the photoreceptor outermost layer and (2) all the **charge-transporting** agent in photoreceptor outermost layer has inorg./org. ratio .ltoreq.0.6. The photoreceptor outermost layer contains polycarbonate contg. structural unit I [R = (un)substituted hydrocarbyl; x, y = 1-6; z = 0-200] at 0.05-1 mol% as a binder. Adhesion of talc and elec. potential lowering are prevented in reversal development.

IT **254897-50-2**

(pos. **hole-transporting** agent; electrophotog. photoreceptor contg. polysiloxane-polycarbonate binder in outermost layer)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS G03G005-05; G03G015-16; G03G021-10

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST electrophotog app cleaning means fur brush pos charging; **charge transporting** agent inorg org value; polycarbonate polysiloxane binder photoreceptor electrophotog

IT 2455-14-3 126657-30-5 140681-19-2 189197-19-1 270578-51-3 334634-19-4 682760-06-1
(**electron-transporting** agent; electrophotog. photoreceptor contg. polysiloxane-polycarbonate binder in outermost layer)

IT **254897-50-2**
(pos. **hole-transporting** agent; electrophotog. photoreceptor contg. polysiloxane-polycarbonate binder in outermost layer)

L37 ANSWER 2 OF 25 HCA COPYRIGHT 2004 ACS on STN

140:10558 Electrophotographic photoreceptor and **image**-forming apparatus with flash fixing means. Azuma, Jun; Watanabe, Yukimasa; Yashima, Ayako (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003337436 A2 20031128, 40 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-51889 20030227. PRIORITY: JP 2002-71418 20020315.

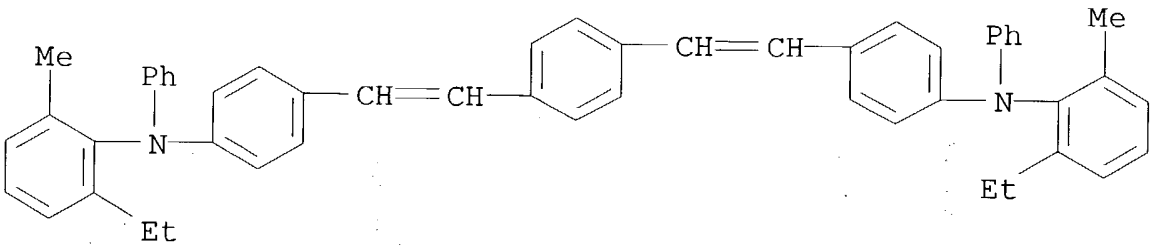
AB In the photoreceptor comprising a support successively coated with a charge-generating layer and a **charge-transporting** layer, the **charge-transporting** agent has half width wavelength of the absorption peak at visible light range that the flash fixing light has .gtoreq.0.5 times of its max. intensity and except the exposure wavelength. The app. comprising a charging, exposing, developing, and transferring, and flash fixing means is also claimed. Even when the photoreceptor is exposed to flash-fixing light, charging dot is not generated on the photoreceptor and the photoreceptor shows high sensitivity and good charging property in repeated use.

IT **254897-50-2**

(pos-**hole transporting** agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS G03G015-20

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog app flash fixing light wavelength; **charge transporting** agent flash fixing light absorption

IT Electrophotographic apparatus
Electrophotographic photoconductors (photoreceptors)
(electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

IT 26201-32-1, Titanyl phthalocyanine
(charge-generating agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

IT 270578-51-3 603139-02-2
(**charge-transporting** agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

IT **254897-50-2**
(pos-**hole transporting** agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

L37 ANSWER 3 OF 25 HCA COPYRIGHT 2004 ACS on STN

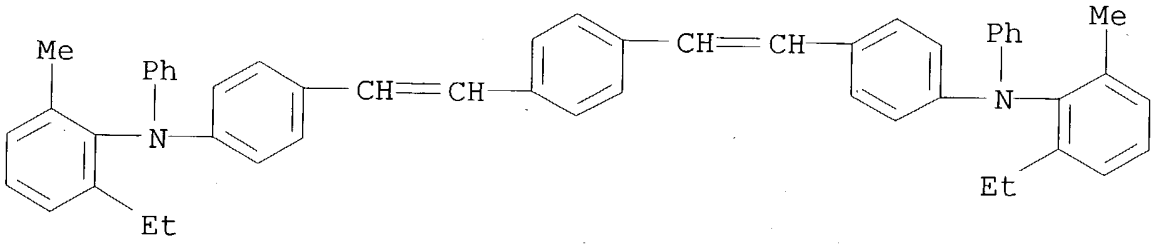
139:330295 Method for electrophotographic **image** formation, especially for adjusting charging condition according to wear of photoreceptor surface. Azuma, Jun; Watanabe, Yukimasa; Fujishima, Masayuki; Nagashima, Takashi; Sakane, Hironori; Tanaka, Takashi; Hikosaka, Ariyoshi (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003295528 A2 20031015, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-95487 20020329.

AB The title method uses an org. monolayer photoreceptor, which has good charge maintenance and provides linear corelation of the off-current and the on-current after repeated usage. The method provides easy setting of surface elec. voltage of the photoreceptor according to the wearing of the photoreceptor surface.

IT **254897-50-2**
(electrophotog. photoreceptor)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G015-00
ICS G03G005-06; G03G015-02

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST method electrophotog **image** charging photoreceptor

IT Electrophotography
(method for electrophotog. **image** formation, esp. for adjusting charging condition accruing to wear of photoreceptor surface)

IT **254897-50-2**
(electrophotog. photoreceptor)

IT 126657-30-5
(**hole-transporting** agent; electrophotog. photoreceptor)

L37 ANSWER 4 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:330272 Method for electrophotographic **image** formation using positively charging monolayer-type organic electrophotographic photoreceptor. Inagaki, Yoshio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003295487 A2 20031015, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-98030 20020329.

AB The title method, which uses a pos. charging monolayer-type org. electrophotog. photoreceptor and contains a cleaning process of residual toner on the photoreceptor, includes the steps of: measuring the thickness of the light-sensitive layer of the photoreceptor and charging amt. of the photoreceptor; calcg. the exposure intensity, which shows .ltoreq.26 V variation after

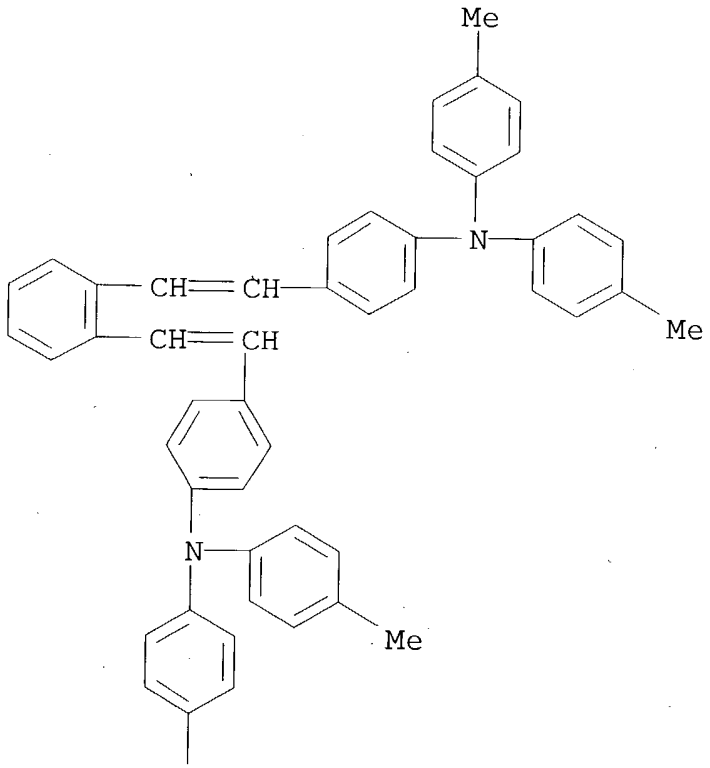
exposure on the light-sensitive layer having .gtoreq.15 .mu.m difference in the thickness. The method uses a phthalocyanine charge-generating agent, naphthoquinone **charge-transporting** compd., and a stilbene-based **hole-transporting** compd. The method provides const. light intensity for photoreceptor exposure after surface wearing of the photoreceptor.

IT **55035-45-5 119564-31-7 254897-50-2 267409-41-6 286851-40-9 612808-08-9**
(**hole transporting** agent; electrophotog. photoreceptor)

RN 55035-45-5 HCA

CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

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RN 119564-31-7 HCA
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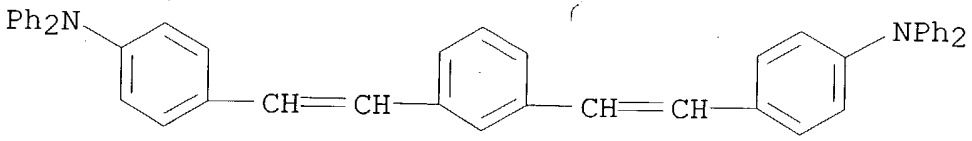
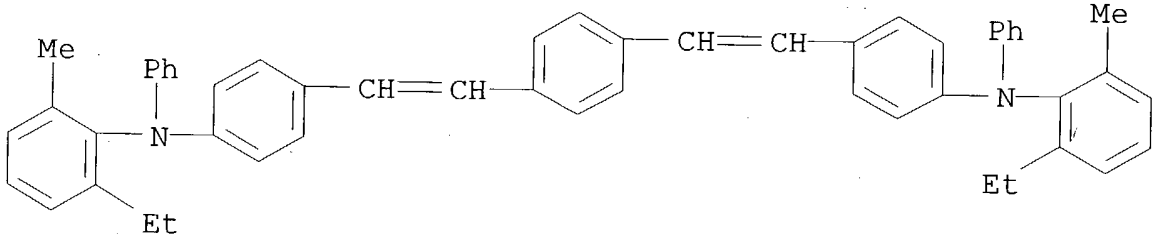


RN 254897-50-2 HCA
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



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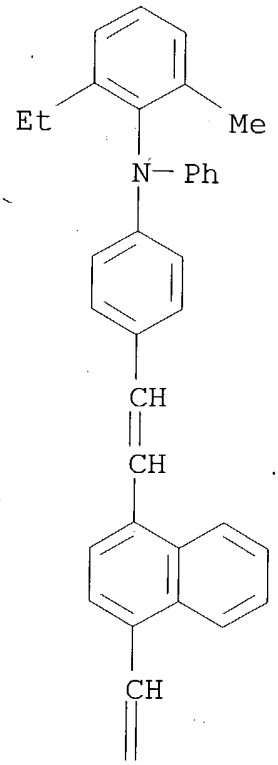
CN Benzenamine, 4,4'-(1,4-naphthalenediyldi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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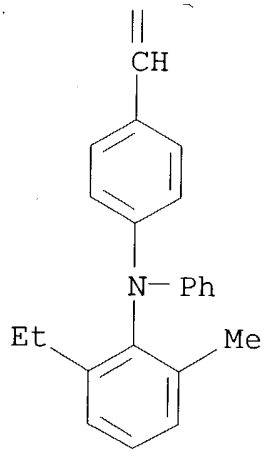
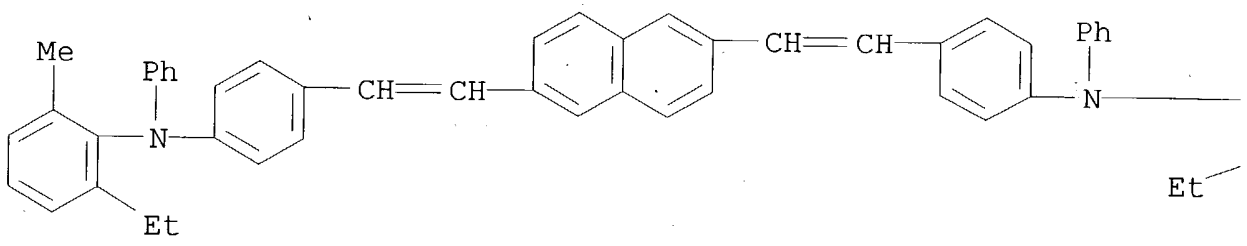


RN 286851-40-9 HCA

CN Benzenamine, 4,4'-(2,6-naphthalenediyldi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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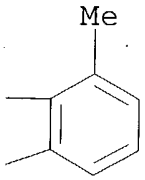
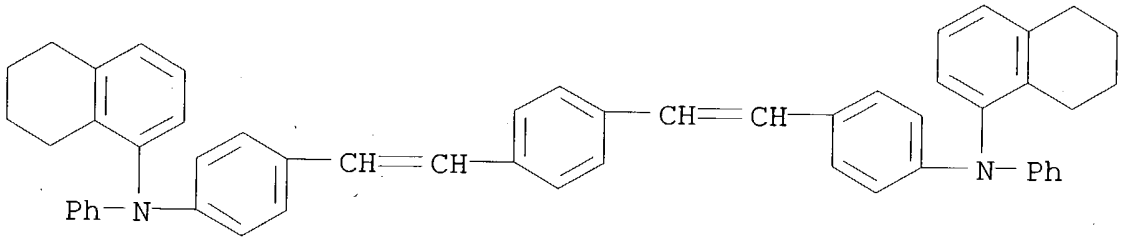


RN 612808-08-9 HCA
CN 1-Naphthalenamine, N,N'-[1,4-phenylenebis(2,1-ethenediyl-4,1-phenylene)]bis[5,6,7,8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)



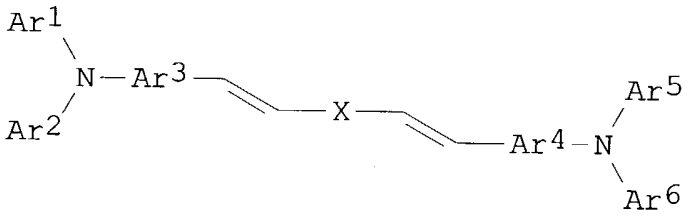
IC ICM G03G005-06
ICS G03G015-00
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog **image** org photoreceptor
IT Electrophotographic photoconductors (photoreceptors)
(method for electrophotog. **image** formation using pos. charging org. electrophotog. photoreceptor)
IT 148808-97-3 189197-19-1

(**electron-transporting** agent; electrophotog. photoreceptor)

IT **55035-45-5 119564-31-7 254897-50-2 267409-41-6 286851-40-9** 393586-85-1 **612808-08-9**
(**hole transporting** agent; electrophotog. photoreceptor)

L37 ANSWER 5 OF 25 HCA COPYRIGHT 2004 ACS on STN
139:314426 Electrophotographic photoreceptor containing distyryl compound as **charge-transporting** agent and **image** forming apparatus. Inagaki, Yoshio; Sugai, Akio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003287912 A2 20031010, 62 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-89480 20020327.

GI



I

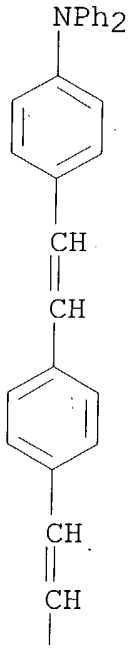
AB The photoreceptor comprises a support coated with a photosensitive layer contg. distyryl compd. I [Ar1-2, Ar5-6 = aryl; Ar3-4 = arylene; X = arylene, divalent heterocycle; .gtoreq.1 pair of adjacent C atoms in Ar1-6 and X are substituted with (CH2)4], a charge-generating agent, and a binder. The **image** forming app. using the photoreceptor is claimed. I shows good compatibility with binder resin and shows good **charge-transporting** property, and the photoreceptor shows high sensitivity and low fog.

IT **610768-09-7P 610768-10-0P**
(electrophotog. photoreceptor contg. distyryl compd. as **charge-transporting** agent)

RN 610768-09-7 HCA

CN 1-Naphthalenamine, N-[4-[2-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]ethenyl]phenyl]-5,6,7,8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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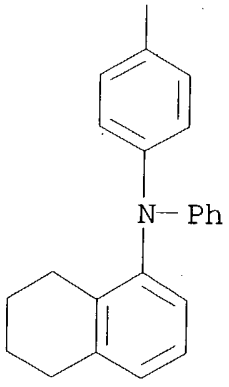
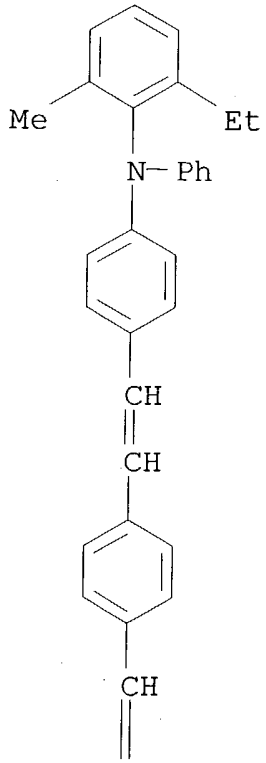


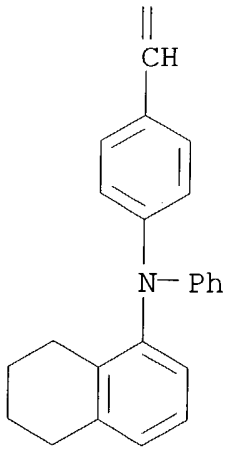
RN 610768-10-0 HCA
CN 1-Naphthalenamine, N-[4-[2-[4-[2-[4-[(2-ethyl-6-methylphenyl)phenylamino]phenyl]ethenyl]phenyl]ethenyl]phenyl]-

5,6,7,8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

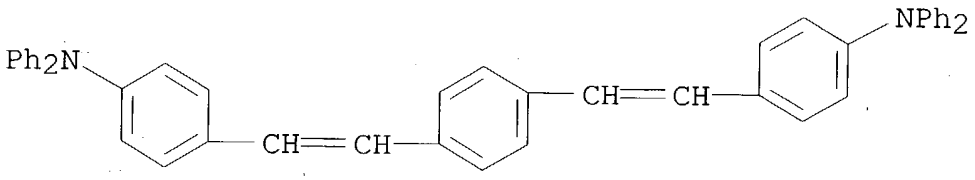


PAGE 2-A

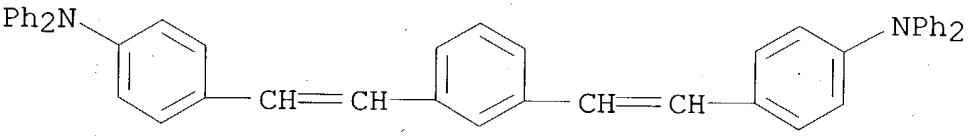


IC ICM G03G005-06
ICS G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog photoreceptor distyryl compd **charge transporting** agent
IT Polycarbonates, uses
(binder; electrophotog. photoreceptor contg. distyryl compd. as **charge-transporting** agent)
IT Electrophotographic photoconductors (photoreceptors)
(electrophotog. photoreceptor contg. distyryl compd. as **charge-transporting** agent)
IT **610768-09-7P 610768-10-0P**
(electrophotog. photoreceptor contg. distyryl compd. as **charge-transporting** agent)
IT 178477-23-1 610768-11-1 610768-12-2
(prepn. of distyryl compd. **charge-transporting** agent)

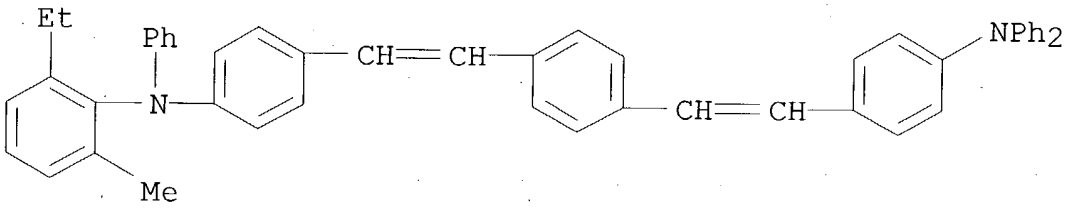
L37 ANSWER 6 OF 25 HCA COPYRIGHT 2004 ACS on STN
139:314423 Electrophotographic apparatus of high sensitivity and good durability on repeated uses, their photoreceptors, and distyryl derivatives therefor. Inagaki, Yoshio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003286234 A2 20031010, 63 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-89148 20020327.
AB Distyryl compds. Ar1Ar2NAr3CH:CHXCH:CHAr4NAr5Ar6 (Ar1, Ar2, Ar5, Ar6 = aryl; Ar3, Ar4 = arylene, bivalent heterocycle; .gtoreq.1 of Ar1-Ar6 is spiro hydrocarbon contg. tetrahydro ring), showing good compatibility with binder resins and large **charge mobility** are claimed. in photoconductive layers which may include Z-type polycarbonates. Photoreceptors having photoconductive layers contg. the derivs. (and Z-type polycarbonates) are also claimed. The electrophotog. app. keep high sensitivity and suppress **image** fogging in repeated uses.
IT **55035-42-2P 119564-31-7P 332411-36-6P 611199-76-9P**
(photoreceptors contg. spiro ring-contg. distyryl **hole transporting** agents)
RN 55035-42-2 HCA
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-diphenyl-(9CI) (CA INDEX NAME)



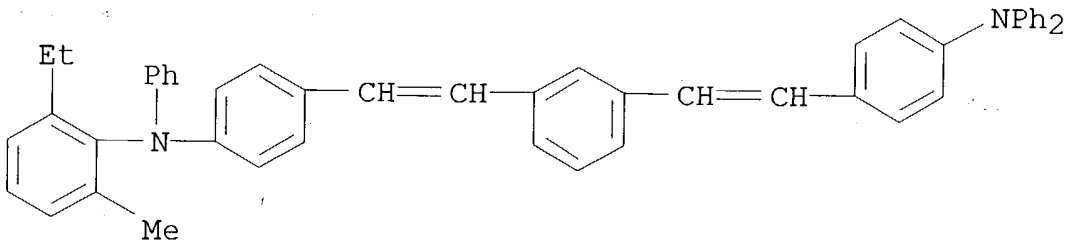
RN 119564-31-7 HCA
CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 332411-36-6 HCA
CN Benzenamine, 4-[2-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]ethenyl]-N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 611199-76-9 HCA
CN Benzenamine, 4-[2-[3-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]ethenyl]-N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM C07C211-54
ICS G03G005-05; G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 25

ST electrophotog photoreceptor distyryl **hole transporting** agent; tetrahydro spiro distyryl **hole transporter** photoreceptor; polycarbonate binder compatible distyryl electrophotog photoreceptor

IT Polycarbonates, uses
(Z, binders; photoreceptors contg. spiro ring-contg. distyryl **hole transporting** agents)

IT Electrophotographic apparatus
Electrophotographic photoconductors (photoreceptors)
(photoreceptors contg. spiro ring-contg. distyryl **hole transporting** agents)

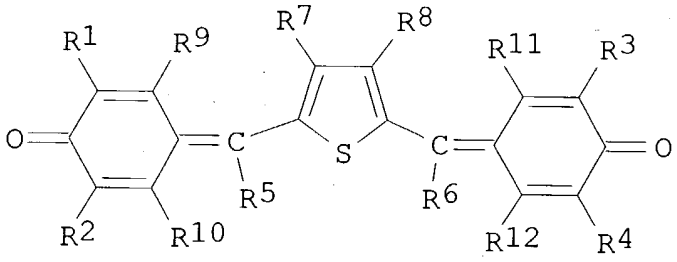
IT **55035-42-2P 119564-31-7P 332411-36-6P 611199-76-9P**
(photoreceptors contg. spiro ring-contg. distyryl **hole transporting** agents)

IT 610767-77-6 610768-11-1 610768-12-2
(photoreceptors contg. spiro ring-contg. distyryl **hole transporting** agents)

L37 ANSWER 7 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:157354 Positive-charging electrophotographic photoreceptor showing excellent electric property and stable performance and electrophotographic apparatus. Ohkura, Kenichi; Ueno, Yoshihiro; Kuroda, Masami; Sekine, Nobuyuki (Fuji Electric Imaging Device Co., Ltd., Japan). Ger. Offen. DE 10303760 A1 20030807, 18 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2003-10303760 20030130. PRIORITY: JP 2002-27236 20020204; JP 2002-35570 20020213.

GI



I

AB The title electrophotog. photoreceptor contains an **electron transport** compd. represented by I (R1-4, R9-12 = H, C1-12-alkyl, C1-6-cyclic alkyl, aryl, alkoxy; R5, R6 = H, C1-12-alkyl, aryl, heterocyclyl; R7, R8 = H, C1-12-alkyl, C1-6-aryl, alkoxy) in a photosensitive layer. The photoreceptor contains a specified styryl compd. as a **charge transport**

substance and a specified phthalocyanine compd. as a charge generation compd.

IT **55035-45-5**

(**charge transport** substance in pos.-charging electrophotog. photoreceptor showing excellent elec. property and stable performance)

RN 55035-45-5 HCA

CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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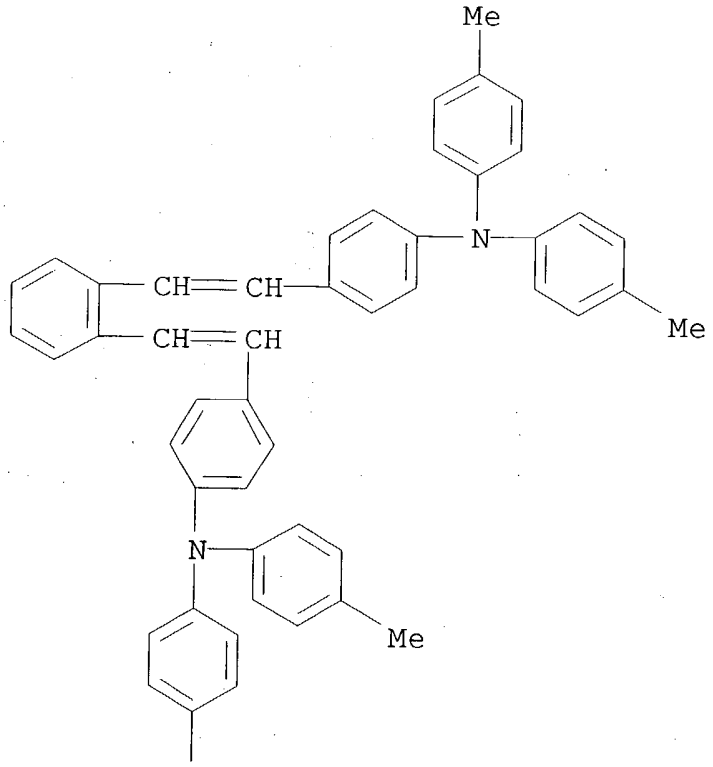


PAGE 2-A

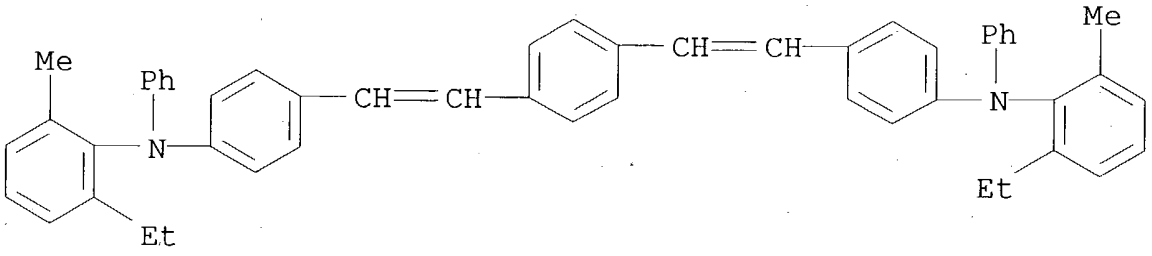
Me

IC ICM G03G005-047

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)
ST electrophotog photoreceptor photoconductor **electron transport** compd **imaging** app
IT **55035-45-5** 65181-78-4 89114-91-0
(**charge transport** substance in pos.-charging electrophotog. photoreceptor showing excellent elec. property and stable performance)
IT 566937-99-3 566938-02-1
(**electron transport** compd. in pos.-charging electrophotog. photoreceptor showing excellent elec. property and stable performance)
IT 201011-64-5P 566937-97-1P
(**electron transport** compd. in pos.-charging electrophotog. photoreceptor showing excellent elec. property and stable performance)
IT 27329-74-4 72612-47-6, 2,5-Dibenzoylthiophene 72612-54-5, 2,5-Dithenoylthiophene
(prepn. of **electron transport** compd. for pos.-charging electrophotog. photoreceptor showing excellent elec. property and stable performance)

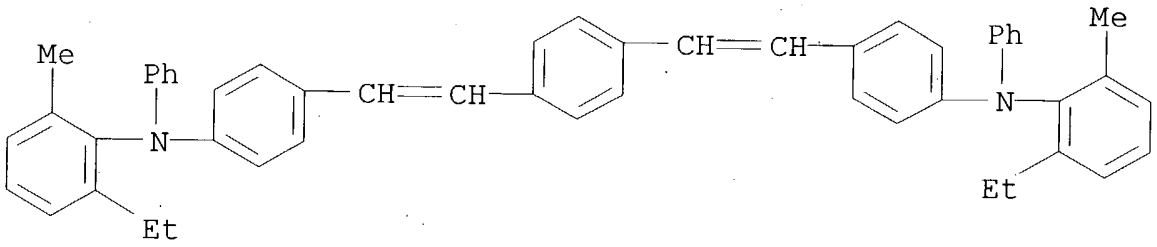
L37 ANSWER 8 OF 25 HCA COPYRIGHT 2004 ACS on STN
138:311491 Electrophotographic **image**-forming apparatus having specific weight ratio of **electron**- and **hole-transporting** materials in light-sensitive layer. Azuma, Jun; Watanabe, Yukimasa; Yashima, Ayako (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003107759 A2 20030409, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-300152 20010928.
AB The title app. has an org. photoreceptor having a light sensitive monolayer, which contains a charge-generating compd., a **hole-transporting** compd., and an **electron-transporting** compd. in a binder, on an electroconductive support, a charging device for the photoreceptor, an exposure device for the photoreceptor, a reverse development device, and a **image**-transfer device, wherein the exposure device has modulation driver circuit taking .gtoreq.3 values and wherein the wt. ratio of (the **electron-transporting** compd.)/(the **hole-transporting** compd.) is .gtoreq.0.7. The app. provides **images** of good tone reprodn. and high d. for long time.
IT **254897-50-2**
(**hole-transporting** compd.; light-sensitive layer in electrophotog. photoreceptor)
RN 254897-50-2 HCA
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-05
ICS G03G005-06; G03G015-04; G03G015-043
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog **image** app
IT Electrophotographic apparatus
(electrophotog. **image**-forming app.)
IT 189197-19-1
(**electron-transporting** compd.; light-sensitive layer in electrophotog. photoreceptor)
IT **254897-50-2**
(**hole-transporting** compd.; light-sensitive layer in electrophotog. photoreceptor)

L37 ANSWER 9 OF 25 HCA COPYRIGHT 2004 ACS on STN
138:9617 **Image**-forming apparatus using **electron-transporting** agent having high **electron mobility**. Azuma, Jun; Fujishima, Masayuki; Watanabe, Yukimasa; Yashima, Ayako; Nagashima, Takashi (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002341603 A2 **20021129**, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-147848 20010517.
AB The **image**-forming app. comprises an org. photoreceptor drum, a charging device, an exposure device, a development device, a **image**-transfer device, and a toner-cleaning device, in which the org. photoreceptor drum contains a charge-generating agent, an **electron-transporting** agent, a **hole-transporting** agent, and a binder resin in a photosensitive layer. A **mobility** of the **electron-transporting** agent is .gtoreq.1.0 .times. 10-8 cm2/V/s at a field intensity 5 .times. 105 V/cm. A solid fraction d. of the binder resin is 50-70% of the total solid fraction d. The binder resin is a polycarbonate resin. The charging device charges the drum at +350~+550V. The exposure device exposes the drum at 0.75-1.5 .mu.J/cm2. The toner-cleaning device uses a blade.
IT **254897-50-2**
(**electron-transporting** agent; org. electrophotog. photoreceptor from)

RN 254897-50-2 HCA
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



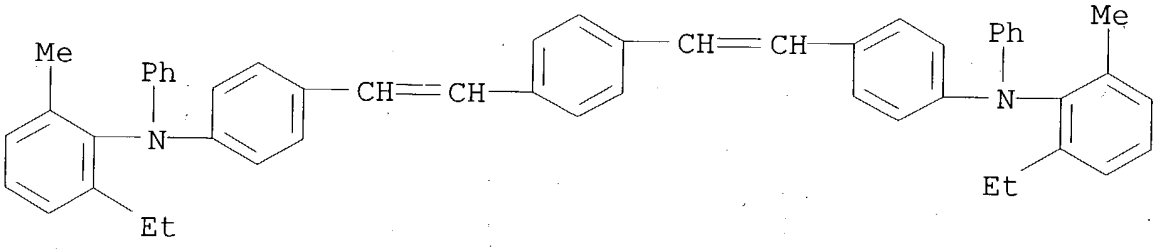
IC ICM G03G015-00
ICS G03G005-05; G03G005-06; G03G015-02; G03G015-04
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST electrophotog **image** forming app polycarbonate binder resin; charging exposure device electrophotog app; **electron transporting** agent **mobility** org electrophotog photoreceptor
IT Electrophotographic apparatus
(**image**-forming app. using **electron-transporting** agent having high **electron mobility**)
IT Electrophotographic photoconductors (photoreceptors)
(org.; **electron -transporting** agent and polycarbonate binder resin in)
IT 2455-14-3 34711-52-9 131079-92-0 140681-19-2 189197-19-1 249286-21-3 **254897-50-2** 265104-49-2 270578-51-3 476621-32-6 476621-33-7 476621-34-8
(**electron-transporting** agent; org. electrophotog. photoreceptor from)

L37 ANSWER 10 OF 25 HCA COPYRIGHT 2004 ACS on STN
137:239714 Electrophotosensitive material. Uchida, Maki; Okada, Hideki (Kyocera Mita Corporation, Japan). Eur. Pat. Appl. EP 1241529 A2 **20020918**, 27 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW. APPLICATION: EP 2002-251689 20020311. PRIORITY: JP 2001-67904 20010312.
AB The invention relates to an electrophotosensitive material featuring an intermediate layer interposed between a conductive substrate and a photosensitive layer and contg. a binder resin and a **charge transport** material having a mol. wt. of .gtoreq. 400. The intermediate layer has a const. thickness because

the intermediate layer can be formed by, for example, dip coating a coating soln. contg. the above two components on the conductive substrate without suffering much flow-down of the coating soln. Hence, overlaying the photosensitive layer on the intermediate layer provides an electrophotosensitive material capable of offering favorable, fog-free **images.**

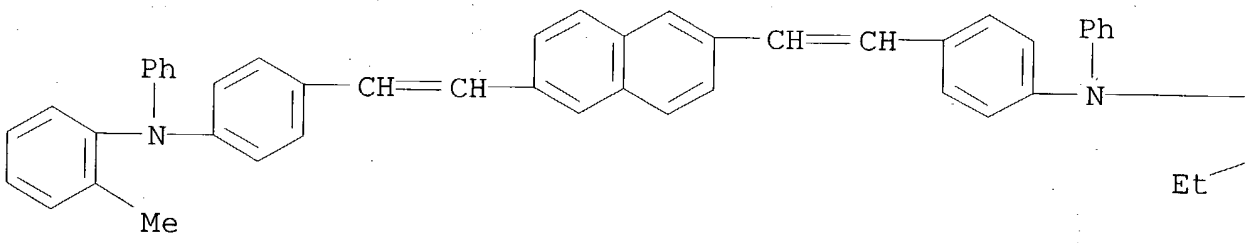
IT **254897-50-2 459170-10-6**
(**charge transport** material;
electrophotosensitive material for electrophotog. copying contg.)

RN 254897-50-2 HCA
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 459170-10-6 HCA
CN Benzenamine, N-(2-ethyl-6-methylphenyl)-4-[2-[6-[2-[4-[(2-methylphenyl)phenylamino]phenyl]ethenyl]-2-naphthalenyl]ethenyl]-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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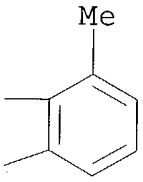
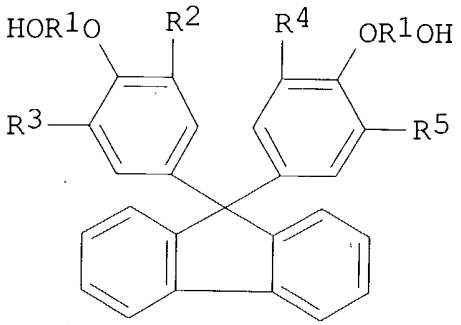


IC ICM G03G005-14
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST electrophotog binder **charge transport** material
IT 105465-13-2 151026-65-2 167377-13-1 168091-65-4
254897-50-2 334634-19-4 **459170-10-6**
(**charge transport** material;
electrophotosensitive material for electrophotog. copying contg.)
IT 2455-14-3, 3,3',5,5'-Tetra-tert-butyl-4,4'-diphenoquinone
(**electron transport** material;
electrophotosensitive material for electrophotog. copying contg.)
IT 124591-08-8, N,N,N',N'-Tetrakis(3-methylphenyl)1,3-diaminobenzene
(**hole transport** material;
electrophotosensitive material for electrophotog. copying contg.)

L37 ANSWER 11 OF 25 HCA COPYRIGHT 2004 ACS on STN
136:361782 Single layer-type electrophotographic photoreceptor used for wet-development-type **image**-forming apparatus. Azuma, Jun; Watanabe, Yukimasa; Sako, Hiroyuki; Nakamura, Kyoichi; Uchida, Maki; Urano, Akiyoshi (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002131943 A2 **20020509**, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-326520 20001026.
GI



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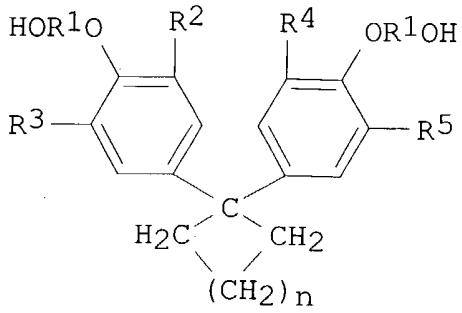

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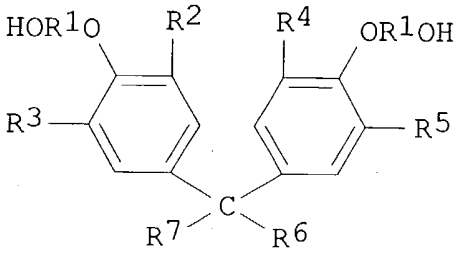


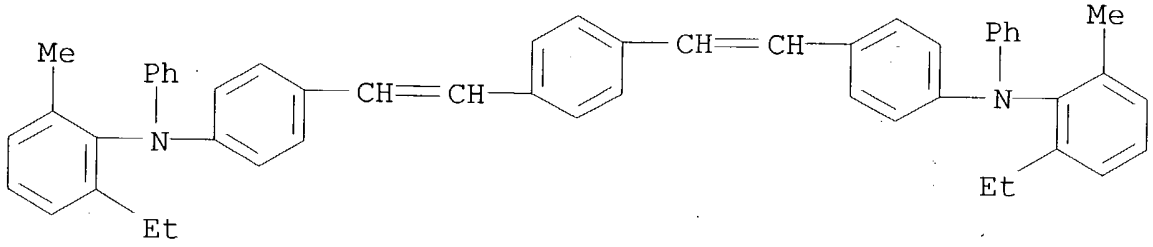
III

AB The invention relates to an electrophotog. photoreceptor without an overcoat layer which does not show a change in the outlook appearance when it is dipped in a hydrocarbon-based solvent. The electrophotog. photoreceptor comprises a photosensitive layer on an elec. conductive support made from a binder resin contg. a **charge-transporting** agent and a charge-generating agent, wherein (a) the binder resin a virtually linear polyester resin prepd. from .gtoreq.1 dihydroxy compd. selected from I-III (R1 = C2-4 alkylene; R2-5 = H, C1-4 alkyl, aryl, aralkyl; n.gtoreq.2;R6,7 = C1-10 alkyl) and a naphthalenedicarboxylic acid, (b) the **charge-transporting** agent includes an **electron-transporting** agent and a **hole-transporting** agent, and (c) a developer contains a toner dispersed in a hydrocarbon-based solvent. The charge-generating agent may include a phthalocyanine pigment.

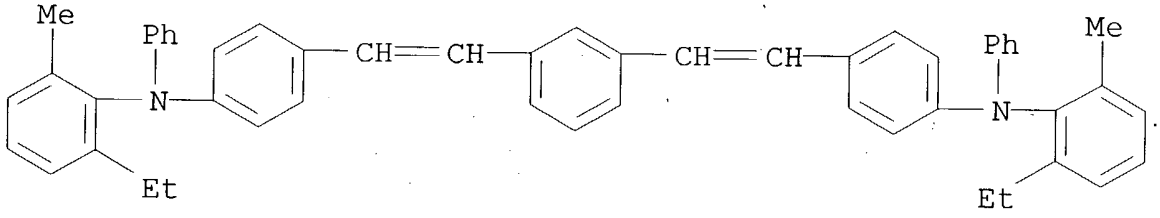
IT **254897-50-2 256660-35-2 286851-40-9**
(**hole-transporting** agent; single layer-type electrophotog. photoreceptor from)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 256660-35-2 HCA
CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 286851-40-9 HCA
CN Benzenamine, 4,4'-(2,6-naphthalenediyldi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

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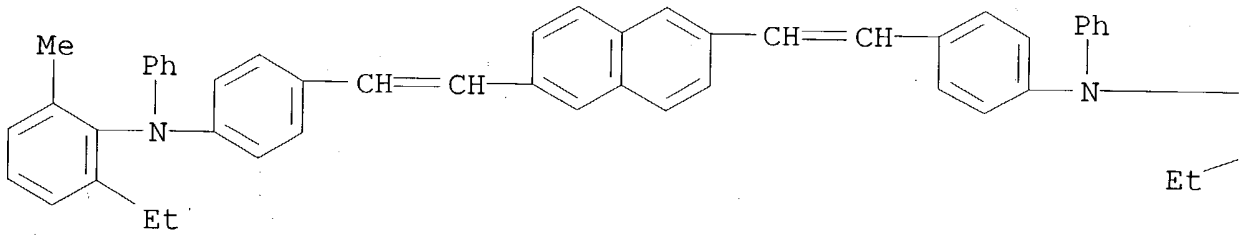

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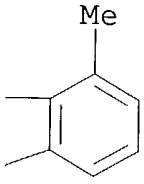
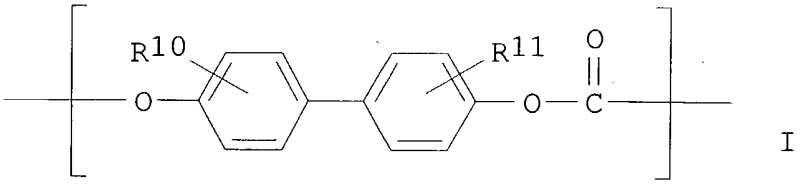
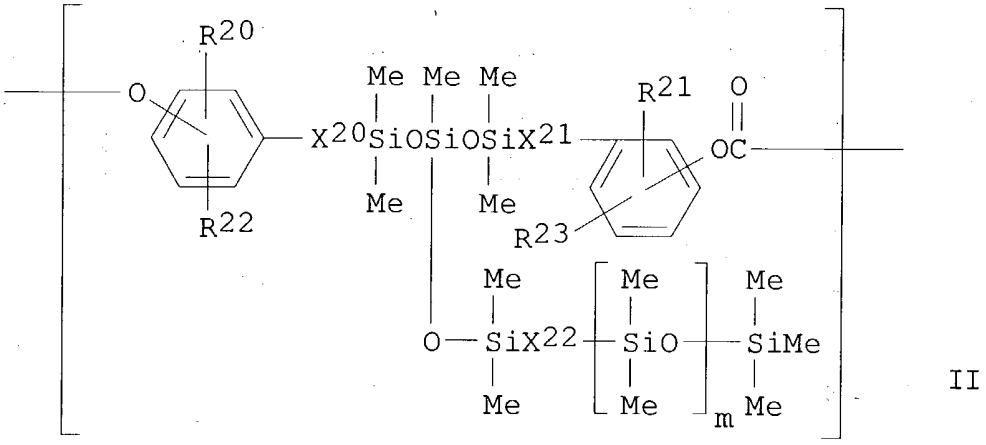


IC ICM G03G005-05
ICS G03G005-06; G03G009-12
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 41
ST electrophotog photoreceptor wet development **image** forming app; polyester binder electrophotog photoreceptor; **charge transporting** agent electrophotog photoreceptor; phthalocyanine pigment charge generating agent electrophotog photoreceptor
IT Electrophotographic photoconductors (photoreceptors)
(single layer-type electrophotog. photoreceptor used for wet-development-type **image**-forming app.)
IT 189197-19-1 334634-19-4 395089-88-0
(**electron-transporting** agent; single layer-type electrophotog. photoreceptor from)
IT 124591-08-8 168091-65-4 **254897-50-2 256660-35-2 286851-40-9**
(**hole-transporting** agent; single layer-type electrophotog. photoreceptor from)

L37 ANSWER 12 OF 25 HCA COPYRIGHT 2004 ACS on STN
136:316893 Electrophotographic photoreceptor for wet development **image** formation. Azuma, Jun; Sako, Hiroyuki; Watanabe, Yukimasa; Honma, Toshikazu; Yashima, Ayako; Uchida, Maki; Nakamura, Kyoichi; Miyamoto, Eiichi (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002116560 A2 **20020419**, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-310967 20001011.
GI



I



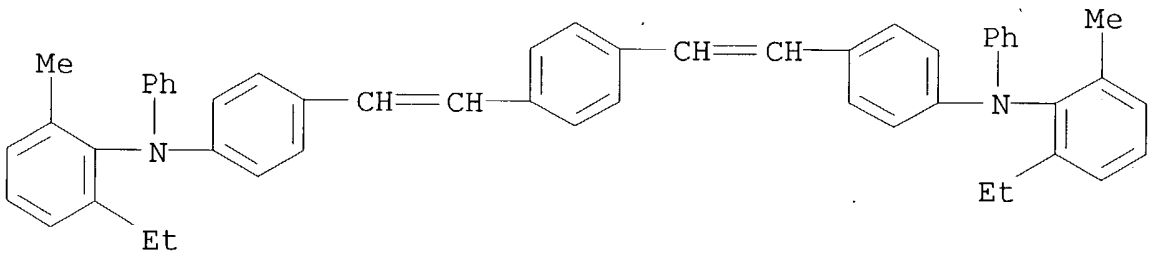
II

AB The photoreceptor comprises an electroconductive support coated with a photosensitive layer contg. a charge-generating agent, a **charge-transporting** agent, and a polycarbonate having repeating unit(s) I (R10-11 = H, C1-3 alkyl) and optionally II [X20-22 = (CH2)n; n = 1-6; R20-23 = H, Ph, C1-3 alkyl, alkoxy; m =0-200] as a binder, and used in wet development using a developer contg. toner particles dispersed in a hydrocarbon solvent. The photoreceptor shows good solvent resistance on wet development.

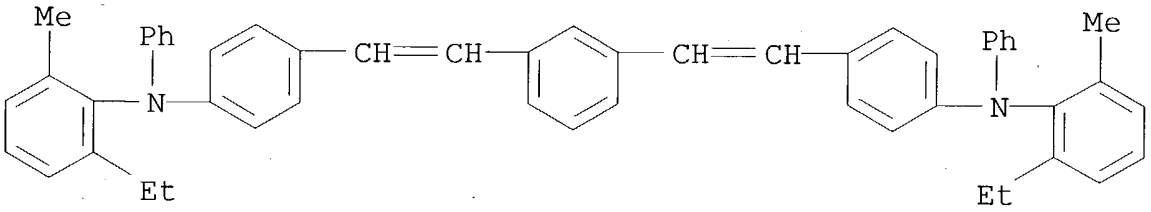
IT **254897-50-2 256660-35-2 286851-40-9**
(pos. **hole-transporting** agent; electrophotog. photoreceptor using polycarbonate binder for wet development)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

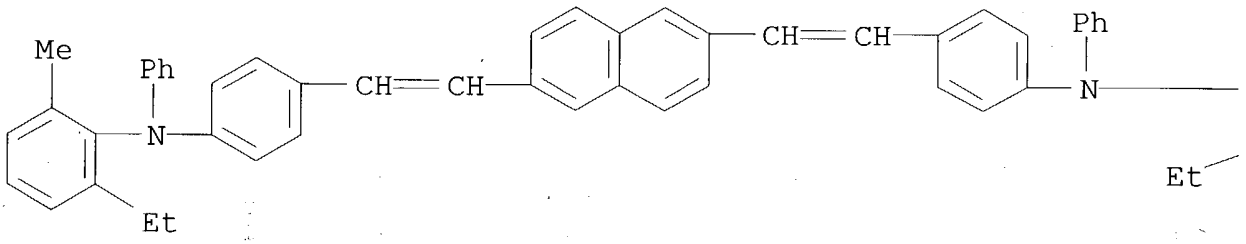


RN 256660-35-2 HCA
CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

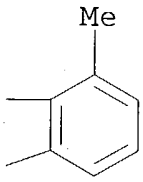


RN 286851-40-9 HCA
CN Benzenamine, 4,4'-(2,6-naphthalenediyldi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-05
ICS G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
IT 286851-41-0 395089-88-0
(**electron-transporting** agent; electrophotog. photoreceptor using polycarbonate binder for wet development)
IT 124591-08-8 168091-65-4 **254897-50-2 256660-35-2**

286851-40-9
(pos. **hole-transporting** agent; electrophotog. photoreceptor using polycarbonate binder for wet development)

L37 ANSWER 13 OF 25 HCA COPYRIGHT 2004 ACS on STN
135:378702 Electrophotographic photoreceptor having controlled carrier mobility. Tamura, Yukihisa (Fuji Electric Imaging Device Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001324825 A2 **20011122**, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-316612 20001017. PRIORITY: JP 2000-66756 20000310.

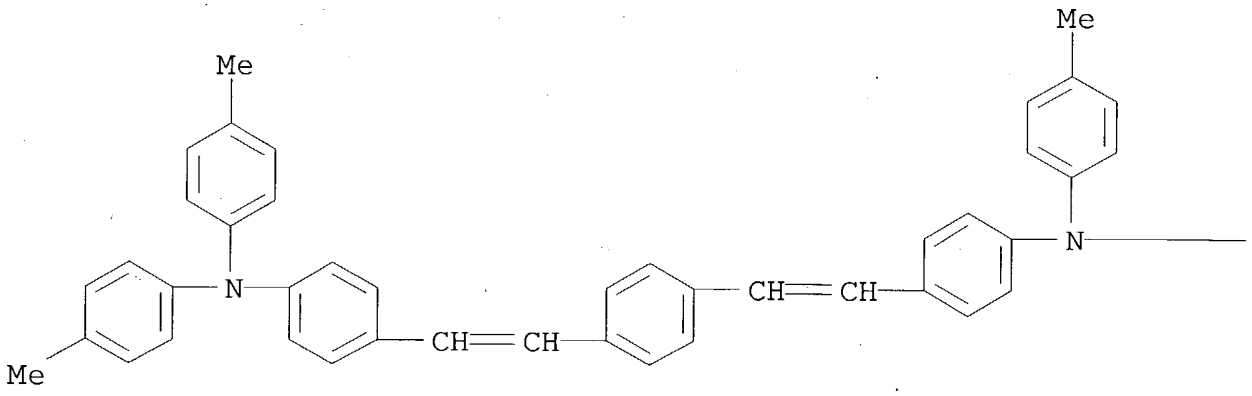
AB The photoreceptor has 15-35 .mu.m-thick photosensitive layer and satisfies .mu. = .mu.0 .times. En (.mu. = carrier **mobility** ; **E** = elec field; .mu.0 = const.; n .ltoreq.0.6). The photoreceptor shows rapid response, high resoln., and gives clear **images** without background fog and memory phenomena.

IT **55035-43-3**
(**charge-transporting** agent; electrophotog. photoreceptor having controlled carrier mobility)

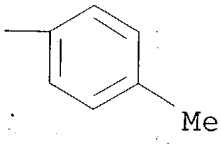
RN 55035-43-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



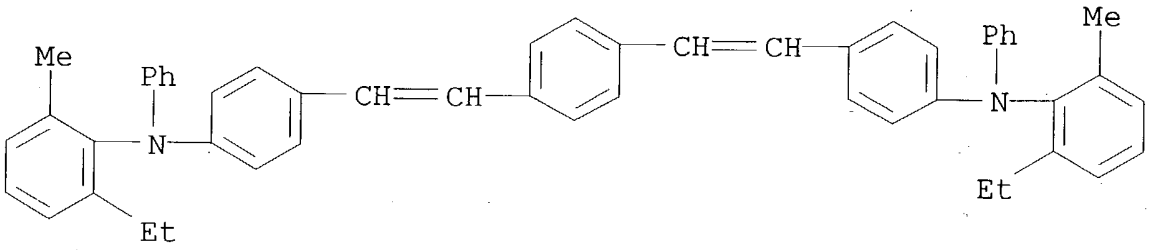
PAGE 1-B



IC ICM G03G005-04
ICS G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT **55035-43-3**
(**charge-transporting** agent; electrophotog. photoreceptor having controlled carrier mobility)

L37 ANSWER 14 OF 25 HCA COPYRIGHT 2004 ACS on STN
135:336893 Single-layer electrophotographic photoreceptors and reversal development-type digital **imaging** apparatus containing them. Imanaka, Yukikatsu; Iwasaki, Hiroaki; Tanaka, Yuji; Hayashi, Masakatsu (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001305755 A2 **20011102**, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-131501 20000426.
AB The photoreceptors, showing reduced exposure memory effect and transfer memory effect, have layers contg. binders, phthalocyanine compds., **hole-transporting** materials, and **electron-transporting** materials on elec. conductive substrates and satisfy the abs. difference of sensitivity (780 nm, 1.0 .mu.J/cm2) in the pos. polarity and neg. polarity .ltoreq.500 V. Stilbenes and quinones are preferably used as the **hole-transporting** materials and the **electron-transporting** materials, resp. The photoreceptors are useful for the **image**-forming app. (such as copiers, facsimiles, and laser printers) which have no means for elec. discharge.
IT **254897-50-2**
(**hole-transporting** material; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)
RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-04
ICS G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photoreceptor reversal development digital **imaging** app; electrophotog photoreceptor sensitivity transfer memory redn; phthalocyanine polycarbonate photoreceptor exposure memory redn
IT Polycarbonates, uses
(bisphenol Z-type; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)
IT Electrophotographic apparatus
Electrophotographic photoconductors (photoreceptors)
(single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)
IT 131079-92-0 189197-19-1, Benzyl 3-phenyl-1,4-naphthoquinone-2-carboxylate 212607-53-9 212607-58-4 212607-63-1 325834-55-7 370106-52-8
(**electron-transporting** material; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)
IT **254897-50-2**
(**hole-transporting** material; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)
IT 574-93-6, Phthalocyanine 26201-32-1, Titanylphthalocyanine
(single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)

L37 ANSWER 15 OF 25 HCA COPYRIGHT 2004 ACS on STN
135:249421 **Image**-forming apparatus for positively chargeable

single layer-type electrophotographic photoreceptor. Tanaka, Yuji; Imanaka, Yukikatsu; Akiba, Nobuko (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001255678 A2 **20010921**, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-72445 20000310.

GI

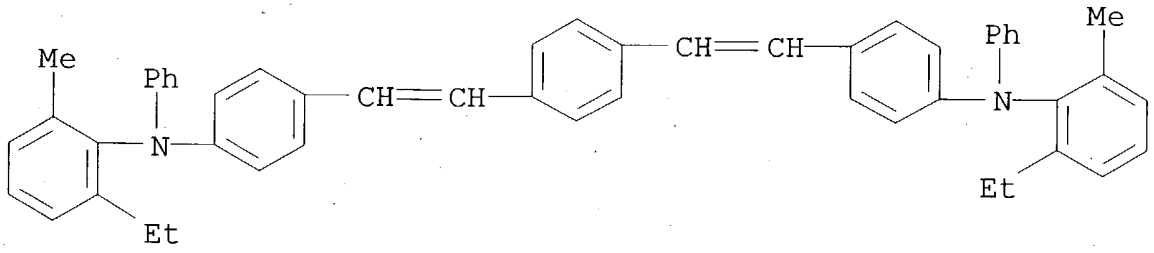
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an electrophotog. photoreceptor used in a reverse development-type digital **image**-forming app. The title **image**-forming app. comprises a charge-neutralizing device disposed at the downstream of an **image**-transfer device and at the upstream of the cleaning device. A photosensitive layer formed on the electrophotog. photoreceptor contains an **electron-transporting** substance such as a compd. represented by I (R1,2 = monovalent hydrocarbon) and a **hole -transporting** substance such as II (R7,9 = alkyl, aryl; R8,9 = H, alkoxy).

IT **254897-50-2**
(**image**-forming app. for pos. chargeable single layer-type electrophotog. photoreceptor)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog photoreceptor **electron hole transporting** substance

IT Electrophotographic photoconductors (photoreceptors)
(**image**-forming app. for pos. chargeable single layer-type electrophotog. photoreceptor)

IT 126657-30-5 168091-65-4 189197-19-1 212607-63-1 251979-06-3
254897-50-2 334634-19-4
(**image**-forming app. for pos. chargeable single layer-type electrophotog. photoreceptor)

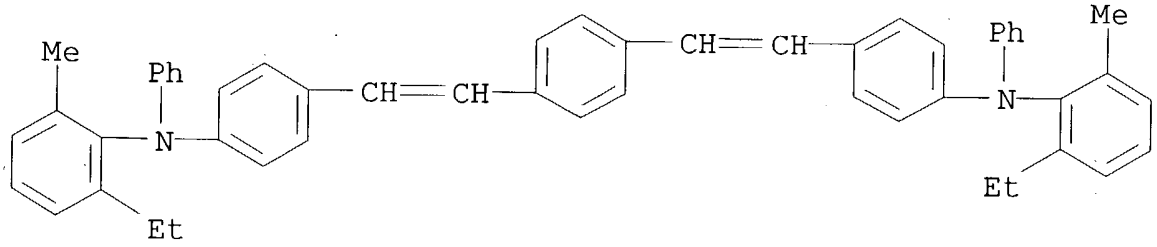
L37 ANSWER 16 OF 25 HCA COPYRIGHT 2004 ACS on STN
135:218690 Positive-charging single-layer electrophotographic photoconductor showing no transfer memory effect and excellent gas-resistance. Tanaka, Yuji; Imanaka, Yukikatsu; Akiba, Nobuko (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001242656 A2 **20010907**, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-54341 20000225.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title electrophotog. photoconductor contains phthalocyanine pigment as an electron generation substance, an **electron transport** substance selected from I (R1, R2 = hydrocarbon substituent), II (R3, R4 = alkyl, haloalkyl, aryl, aralkyl, alkoxy, aryloxy, aralkyloxy, acyl, alkoxycarbonyl, aryloxycarbonyl, aralkyloxycarbony, nitro; n = 0-3), and III (R5, R6 = hydrocarbon substituent), and a terphenyl pigment IV (R7-9 = H, alkyl, aryl, amino). The photoconductor also contains a specified **hole transport** substance (Markush structures are given). The photoconductor is suitable for use in a reversal development type digital **imaging** app.

IT **254897-50-2**
(**hole transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect and excellent gas-resistance)

RN 254897-50-2 HCA
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



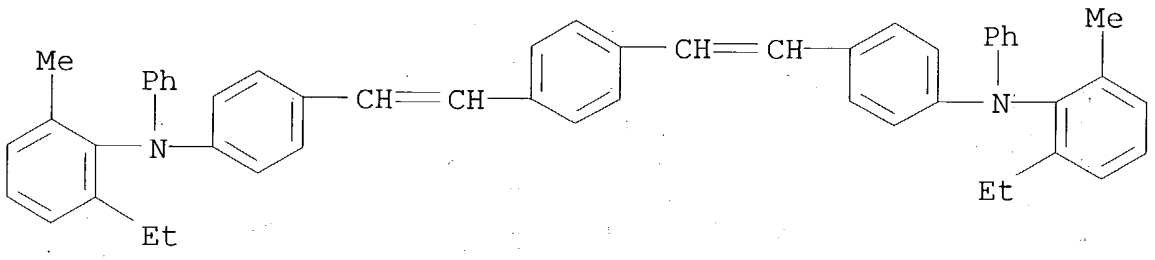
IC ICM G03G005-06
ICS G03G005-06; G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog photoconductor **electron transport** substance terphenyl pigment; **hole transport** substance electrophotog photoconductor digital **imaging** app
IT 212607-53-9 212607-63-1 249286-21-3 251979-06-3 252060-99-4 334634-19-4
(**electron transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect and excellent gas-resistance)
IT 168091-65-4 **254897-50-2**
(**hole transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect and excellent gas-resistance)

L37 ANSWER 17 OF 25 HCA COPYRIGHT 2004 ACS on STN
135:218689 Positive-charging single-layer electrophotographic photoconductor showing no transfer memory effect. Tanaka, Yuji; Imanaka, Yukikatsu; Akiba, Nobuko (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001242655 A2 **20010907**, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-54342 20000225.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title electrophotog. photoconductor contains a phthalocyanine pigment as an electron generation substance, an **electron transport** substance selected from I (R1, R2 = hydrocarbon substituent), II (R3, R4 = alkyl, haloalkyl, aryl, aralkyl, alkoxy, aryloxy, aralkyloxy, acyl, alkoxycarbonyl, aryloxycarbonyl, aralkyloxycarbony, nitro; n = 0-3), and III (R5, R6 = hydrocarbon substituent), and a perylene pigment IV (R7-10 = H, alkyl, aryl, aralkyl, amino), wherein the wt. ratio of perylene/phthalocyanine is lying .ltoreq.1. The photoconductor also contains a specified **hole transport** substance (Markush structures are given). The photoconductor is suitable for use in a reversal development type digital **imaging** app.
IT **254897-50-2**
(**hole transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect)
RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS G03G005-06; G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog photoconductor **electron transport** substance perylene pigment; **hole transport** substance electrophotog photoconductor digital **imaging** app
IT 212607-63-1 251979-06-3 334634-19-4
(**electron transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect)
IT 168091-65-4 **254897-50-2**
(**hole transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect)

L37 ANSWER 18 OF 25 HCA COPYRIGHT 2004 ACS on STN
134:185904 Single-layer electrophotosensitive material and **image** forming apparatus using it. Imanaka, Yukikatsu; Iwasaki, Hiroaki; Tanaka, Yuji; Hayashi, Masakatsu (Kyocera Mita Corp., Japan). U.S. US 6190812 B1 **20010220**, 14 pp. (English). CODEN: USXXAM. APPLICATION: US 2000-595906 20000620.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention provides a single-layer electrophotosensitive material contg. a conductive substrate and a photosensitive layer consisting of (1) a phthalocyanine compd. as an elec. charge generating material, (2) a **hole transport** material and (3) an **electron transport** material in a binder resin, and that a difference in abs. value between a

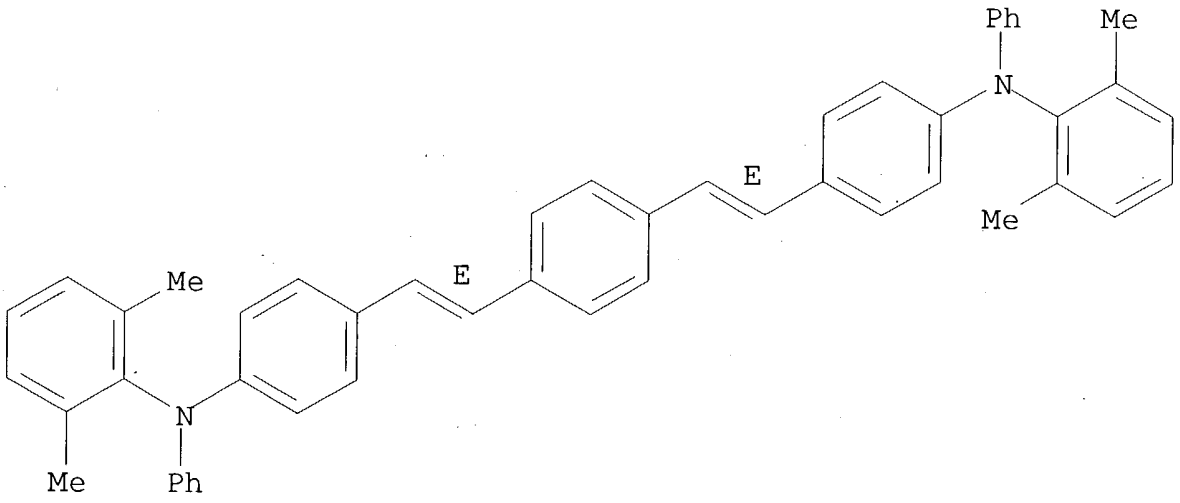
plus polarity sensitivity and a minus polarity sensitivity measured under the conditions of an exposure wavelength of 780 nm and an exposure energy of 1.0 .mu.J/cm2 is not more than 500 V, and a reversal development type digital **image** forming app. using the electrophotosensitive material, which does not include a charge neutralizing step. The **hole transport** material is represented by I (R1 and R3 = alkyl, aralkyl, alkoxy; R2 and R4 = H, alkyl, alkoxy). The **electron transport** material is represented by II (R5 = halogen, alkyl, aryl, R6 = alkyl, alkoxy); III (R7 and R8 = the same or different substituents, n = 0-3); IV (R9-R12 = H, alkyl, aryl); V (R13-R14 = the same or different substituents, n = 0-3).

IT **325834-56-8**
(**hole transport** material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator)

RN 325834-56-8 HCA

CN Benzenamine, 4,4'-[1,4-phenylenedi-(1E)-2,1-ethenediyl]bis[N-(2,6-dimethylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IC ICM G03G005-09
ICS G03G013-22

NCL 430083000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog single layer **imaging** material **hole** **electron transport**; phthalocyanine charge

generator **hole electron transport**
compd electrophotog photoconductor

IT Polycarbonates, uses
(binder; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator)

IT Electrophotographic apparatus
(reversal development type digital **image** forming app. using single-layer material contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator without charge neutralizing step)

IT Electrophotography
(reversal development type digital **image** forming using single-layer material contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator without charge neutralizing step)

IT Electrophotographic photoconductors (photoreceptors)
(single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator)

IT 574-93-6, 29H,31H-Phthalocyanine 26201-32-1
(charge generating material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator)

IT 188771-38-2 189197-19-1 212607-53-9 212607-58-4 212607-63-1 325834-55-7 325834-57-9 325834-58-0
(**electron transport** material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator)

IT **325834-56-8**
(**hole transport** material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole**- and **electron transport** compds. and phthalocyanine charge generator)

L37 ANSWER 19 OF 25 HCA COPYRIGHT 2004 ACS on STN
133:357221 Electrophotographic photoreceptors and electrophotographic apparatus. Okura, Kenichi; Kitagawa, Seizo; Takeuchi, Masaru (Fuji Denki Kazo Device K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2000314969 A2 **20001114**, 74 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-125133 19990430.

AB The photoreceptors comprise a conductive substrate, an optional

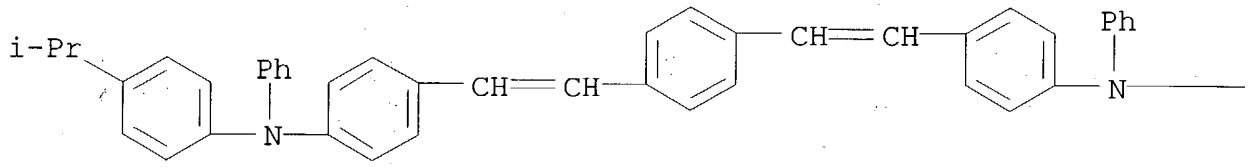
primer layer, and a monolayer photosensitive layer contg. a resin binder, a charge generator, a **hole transporter**, an **electron transporter**, and a biphenyl deriv. Preferable Markush structures for the biphenyls, **electron transporters**, **hole transporters**, and binders are also given. Electrophotog. app. which work by pos. charge process and comprising of the claimed photoreceptors is also claimed. App. giving clear **images** even after repeated printing is obtained.

IT **208042-87-9 306742-39-2 306742-41-6**
(**hole transporter**; electrophotog. photoreceptors contg. biphenyl derivs. for stable repeated printing)

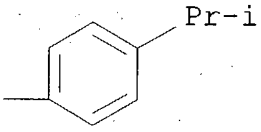
RN 208042-87-9 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-[4-(1-methylethyl)phenyl]-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

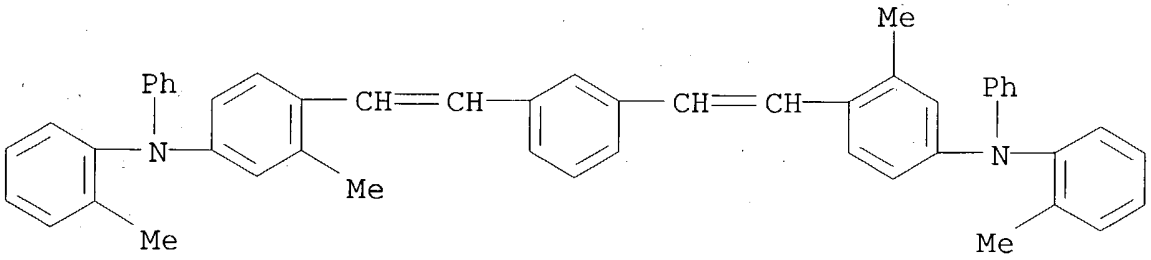


PAGE 1-B

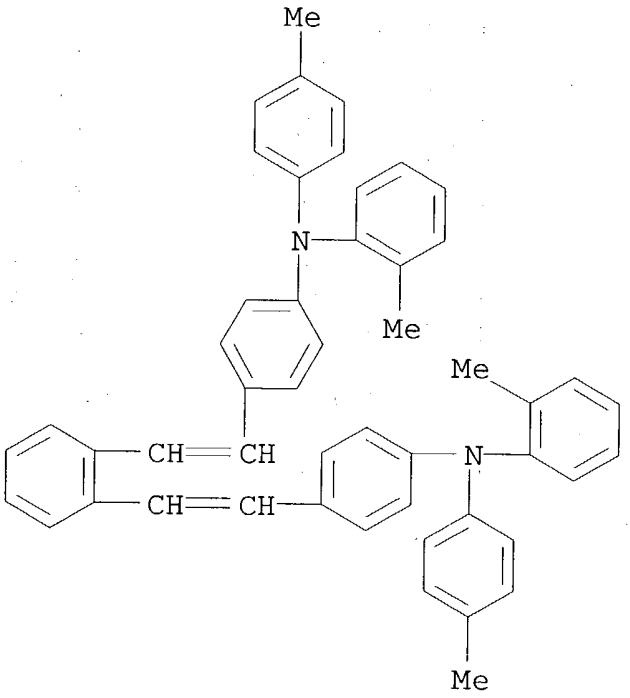


RN 306742-39-2 HCA

CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[3-methyl-N-(2-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 306742-41-6 HCA
CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N-(2-methylphenyl)-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 4584-63-8 67821-33-4 126657-30-5 126980-24-3 148808-97-3 150639-07-9 189197-19-1 198880-98-7 201854-59-3 213672-33-4 265104-47-0 270578-51-3 306742-25-6
(**electron transporter**; electrophotog. photoreceptors contg. biphenyl derivs. for stable repeated printing)
IT 65181-78-4 90884-12-1 103079-11-4 119344-29-5 121671-22-5 127446-78-0 131783-25-0 132571-92-7 147850-54-2 164155-42-4 **208042-87-9 306742-39-2 306742-41-6** 306742-42-7
(**hole transporter**; electrophotog. photoreceptors contg. biphenyl derivs. for stable repeated printing)

L37 ANSWER 20 OF 25 HCA COPYRIGHT 2004 ACS on STN
132:100410 Negative-charging monolayer-type electrophotographic photoreceptor using substrate having interference fringe-prevention

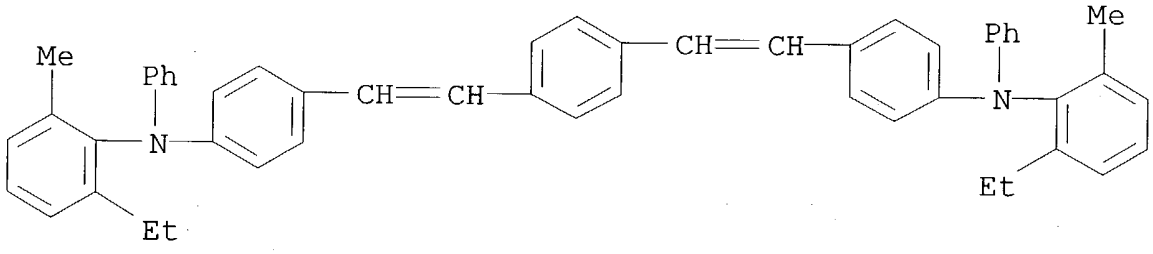
layer. Fukami, Toshiyuki; Fujii, Atsushi (Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000019748 A2 **20000121**, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-226623 19980701.

AB In the electrophotog. photoreceptor comprising an elec. conductive substrate having a photosensitive layer contg. a charge-generating pigment, a pos. **hole-transporting** agent, an **electron-transporting** agent, and a binder, the photosensitive layer is light transmittable and the surface of the substrate has a interference fringe preventing layer at the photosensitive layer side. The photoreceptor shows high photosensitivity, good photo-response and gives clear **images**.

IT **254897-50-2**
(pos. **hole transporting** agent; electrophotog. photoreceptor using substrate having interference fringe-prevention layer and light transmitting photosensitive layer)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-04
ICS G03G005-06; G03G005-14

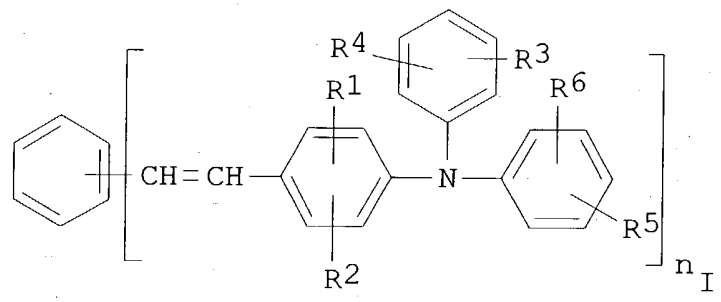
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

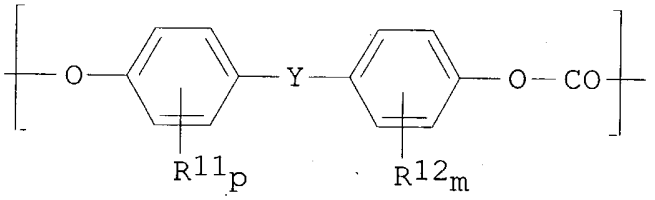
IT 2417-00-7 126657-30-5 171258-57-4 251979-06-3 252060-99-4 254897-45-5 254897-46-6 254897-47-7
(**charge-transporting** agent; electrophotog. photoreceptor using substrate having interference fringe-prevention layer and light transmitting photosensitive layer)

IT 105465-13-2 124591-08-8 179063-38-8 254897-48-8 **254897-50-2**
(pos. **hole transporting** agent; electrophotog. photoreceptor using substrate having interference fringe-prevention layer and light transmitting photosensitive layer)

L37 ANSWER 21 OF 25 HCA COPYRIGHT 2004 ACS on STN
130:102861 Electrophotographic photoconductor and electrophotographic apparatus using the same. Ohkura, Kenichi; Takeuchi, Masaru (Fuji Electric Co., Ltd., Japan). Ger. Offen. DE 19829055 A1 **19990107**, 18 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1998-19829055 19980629. PRIORITY: JP 1997-173459 19970630.

GI





II

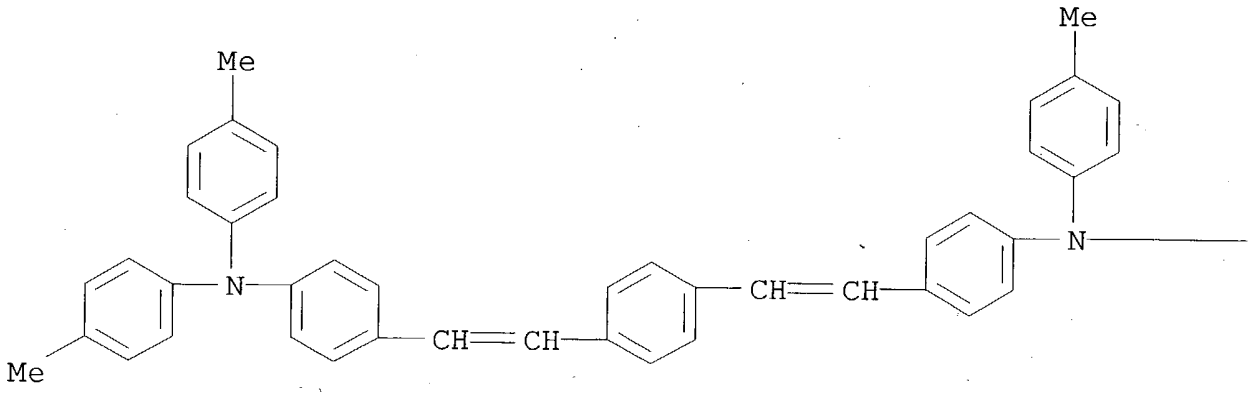
AB The electrophotog. photoconductor comprises a conductive support, and on the substrate a photoconductor film comprised of a charge generation layer and a **charge transport** layer, wherein the **charge transport** layer contains a **charge transport** material I (R1-6 = C1-4-alkyl; n = 2-4) and at least 1 binder material II (Y = single bond, O, CO, S, SO2, CR21R22, C5-7 1,1-cycloalkylidene; R11, R12 = H, C1-6 alkyl, C6-12 aryl; m, p = 0-4; R21, R22 = H, C1-6 alkyl, C6-12 aryl). The conductor improves **image** quality and shows improved durability.

IT **55035-43-3 55035-45-5 127374-49-6**
(**charge transport** material in electrophotog. photoconductor)

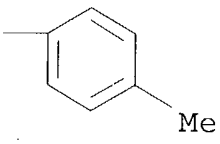
RN 55035-43-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

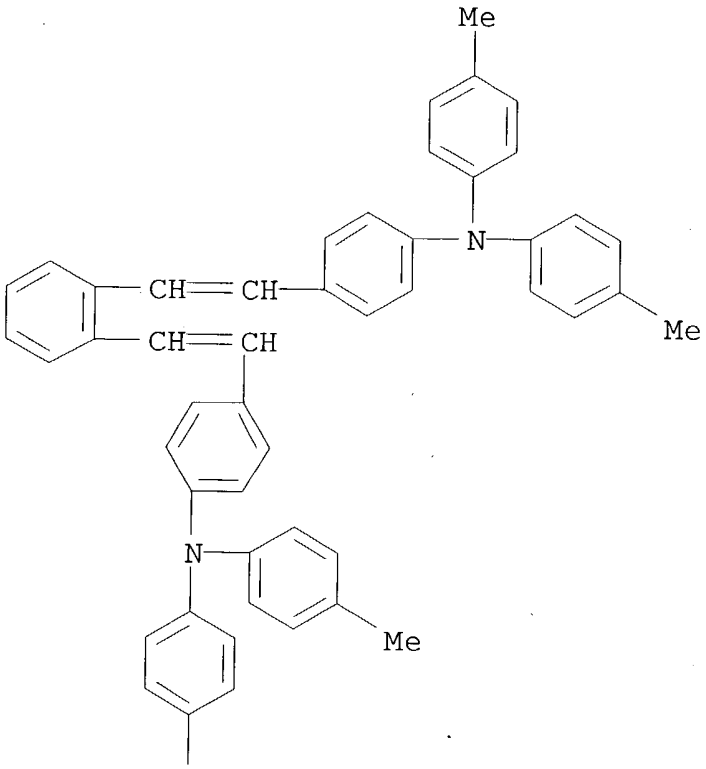


PAGE 1-B



RN 55035-45-5 HCA
CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

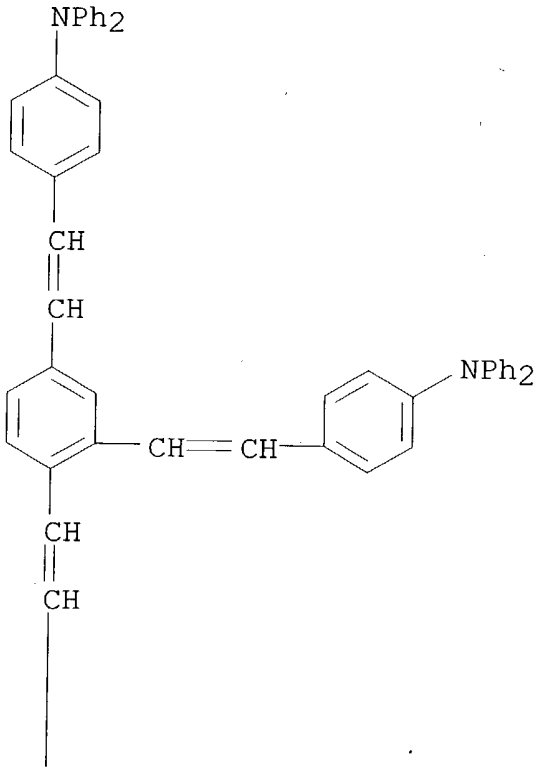


PAGE 2-A

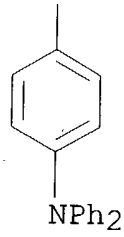
Me

RN 127374-49-6 HCA
CN Benzenamine, 4,4',4''-(1,2,4-benzenetriyltri-2,1-ethenediyl)tris[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM G03G005-047
ICS G03G005-05

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

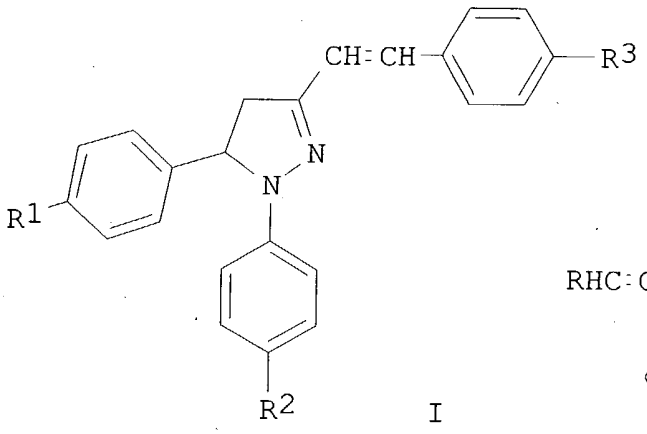
ST electrophotog photoconductor **charge transport** material polycarbonate binder

IT **55035-43-3 55035-45-5 127374-49-6**

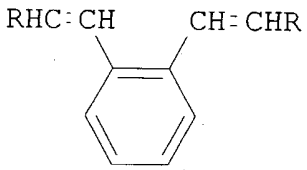
(**charge transport** material in electrophotog. photoconductor)

L37 ANSWER 22 OF 25 HCA COPYRIGHT 2004 ACS on STN
129:182078 Electrophotographic photoreceptor with high-sensitivity and superior durability for high quality **images**. Ikegami, Takaaki; Umeda, Minoru; Sakon, Yota; Kurimoto, Eiji (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10213915 A2 **19980811** Heisei, 267 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1997-43127 19970128.

GI



I



II

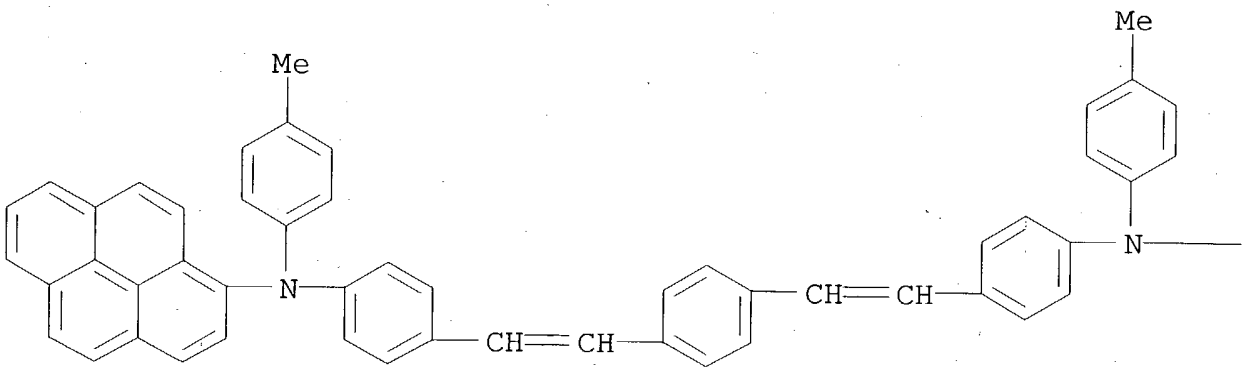
AB The title photoreceptor has a photosensitive layer contg. **charge-transporting** material of .gtoreq.1 compd. from I (R1, R3 = H, lower alkyl, lower alkoxy, lower dialkyl amino; R2 = H, lower alkyl, lower alkoxy, halo, nitro; n = 0, 1) and .gtoreq.1 compd. from II (R = carbazolyl, pyridyl, thienyl, indolyl, furil, (substituted)phenyl, (substituted)styryl, (substituted)naphthyl, (substituted)anthryl with the substituent as lower dialkyl amino, lower alkyl, lower alkoxy, halo, aralkyl amino, amino) on an elec. conductive substrate.

IT **157358-00-4**
(combined with other **charge-transporting** material for electrophotog. photoreceptor with high-sensitivity and superior durability)

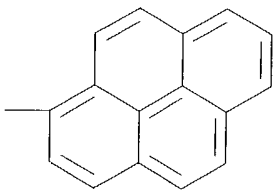
RN 157358-00-4 HCA

CN 1-Pyrenamine, N,N'-[1,4-phenylenebis(2,1-ethenediyl-4,1-phenylene)]bis[N-(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-06
ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog photoreceptor **charge transporting** material

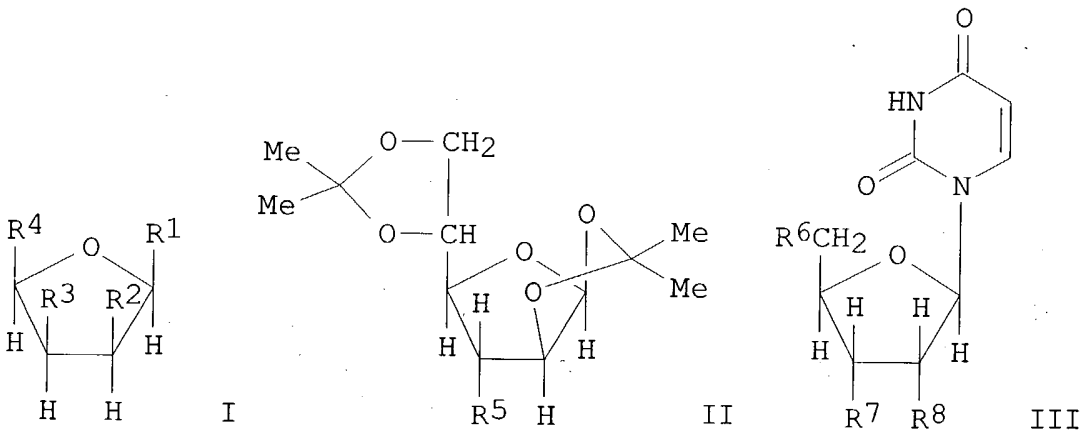
IT Electrophotographic photoconductors (photoreceptors)
(contg. 2 kinds of specified **charge-transporting** material)

IT 1159-53-1 1679-98-7 1874-45-9 4316-53-4 36809-23-1
65272-89-1 65419-21-8 65419-29-6 70366-94-8 77317-24-9
78014-47-8 79096-24-5 88439-40-1 88740-81-2 95226-63-4
117933-18-3 118076-60-1 119564-40-8 119564-46-4 121671-02-1
123521-36-8 123521-38-0 124373-59-7 124537-78-6 125681-59-6
128965-04-8 128965-05-9 129119-43-3 129970-68-9 130746-04-2
130746-11-1 131059-46-6 131625-67-7 131852-82-9 133637-75-9
134917-81-0 135071-77-1 135198-98-0 135722-63-3 136052-05-6
136052-08-9 136578-69-3 137716-81-5 138510-79-9 138689-62-0

139153-64-3 139184-14-8 139184-25-1 139184-32-0 139211-82-8
139905-76-3 139905-81-0 142641-62-1 142773-14-6 142773-16-8
142773-17-9 143764-87-8 143877-71-8 143877-75-2 152594-07-5
157358-00-4 158604-98-9 159390-50-8 159390-64-4
163969-27-5 167308-80-7 206661-58-7 206661-61-2 211429-25-3
211429-26-4 211429-27-5 211429-28-6 211429-29-7 211429-30-0
211429-32-2 211429-33-3 211429-34-4 211429-35-5 211429-38-8
211429-41-3 211429-43-5 211429-44-6 211429-45-7
(combined with other **charge-transporting** material for electrophotog. photoreceptor with high-sensitivity and superior durability)

L37 ANSWER 23 OF 25 HCA COPYRIGHT 2004 ACS on STN
126:82194 Electrophotographic photoreceptor containing antioxidant. Yamazaki, Mikio; Maruyama, Shigeru; Nabeta, Osamu (Fuji Electric Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 08254842 A2 **19961001** Heisei, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-57002 19950316.

GI



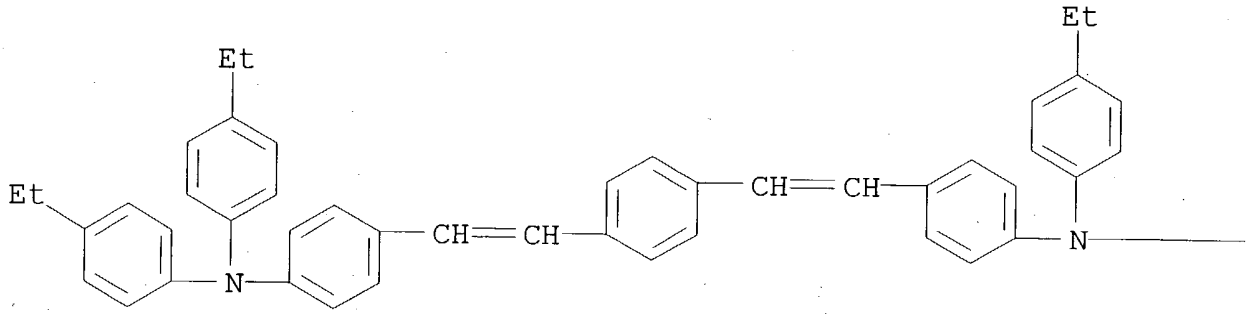
AB The photoreceptor comprises a support coated with an org. photosensitive layer contg. an antioxidant I, II, and/or III [R1-8 = alkyl, benzoyl, aryl, arom. ring, arom. heterocycle, (all may be substituted), H, OH, acetyl, alkoxy]. The photoreceptor shows good durability in repeated use and gives clear **images**.

IT **185122-79-6**
(**charge-transporting** agent; electrophotog. photoreceptor contg. furan deriv. antioxidant)

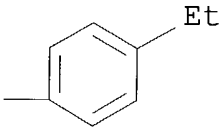
RN 185122-79-6 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-ethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-05
ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 1450-63-1D, derivs. 15546-43-7D, derivs. 88237-23-4D, derivs. 89114-90-9D, derivs. **185122-79-6**
(**charge-transporting** agent; electrophotog. photoreceptor contg. furan deriv. antioxidant)

L37 ANSWER 24 OF 25 HCA COPYRIGHT 2004 ACS on STN

115:218831 Electrophotographic photoreceptor using acetylene derivative **charge-transporting** agent. Makino, Naonori; Hoshi, Satoshi; Kitatani, Katsushi (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03075659 A2 **19910329** Heisei, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-212081 19890817.

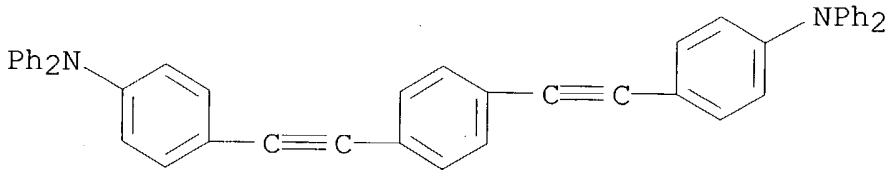
AB The title photoreceptor comprises an elec. conductive support with a coating of a photosensitive layer contg. .gtoreq.1 acetylene deriv. RC.tplbond.CZC.tplbond.CR1 (I; R, R1 = arom. carbocyclic ring or heterocyclic arom. ring; Z = arylene, divalent condensed polycyclic

arom. ring, divalent heterocyclic arom. ring). The photoreceptor shows good photosensitivity and durability and provides uniform **images**. Thus, an Al substrate was coated with a Se charge-generating layer by vacuum deposition, and with a **charge-transporting** layer contg. I (R = R1 = p-C6H4NPh2, Z = p-phenylene) to give a photoreceptor.

IT **136993-88-9 136993-89-0 136993-90-3 136993-92-5 136993-93-6 136993-94-7 136994-00-8 136994-01-9**
(**charge-transporting** agent, electrophotog. photoreceptor contg.)

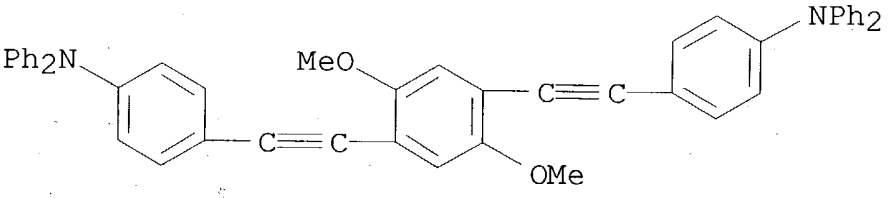
RN 136993-88-9 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



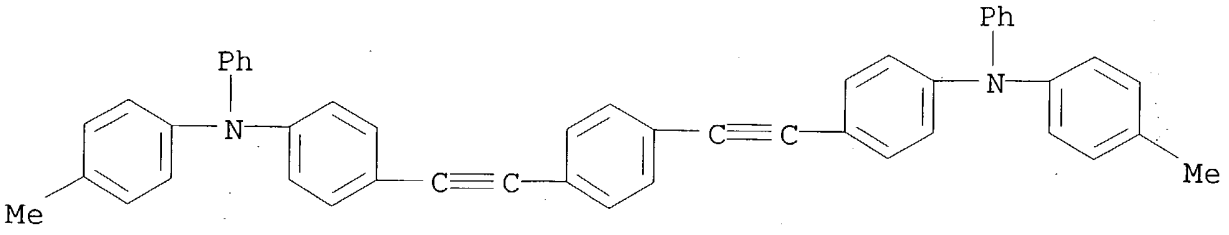
RN 136993-89-0 HCA

CN Benzenamine, 4,4'-[(2,5-dimethoxy-1,4-phenylene)di-2,1-ethynediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



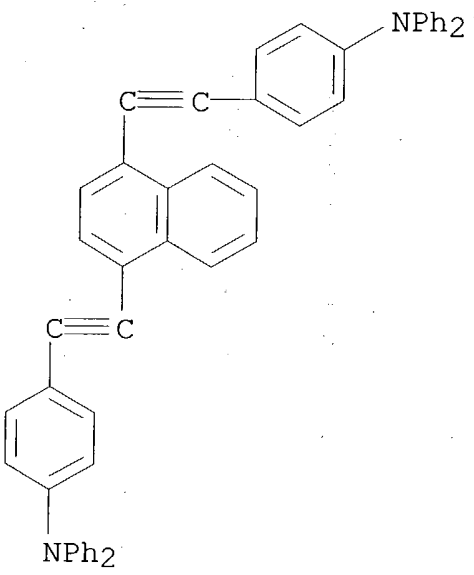
RN 136993-90-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethynediyl)bis[N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

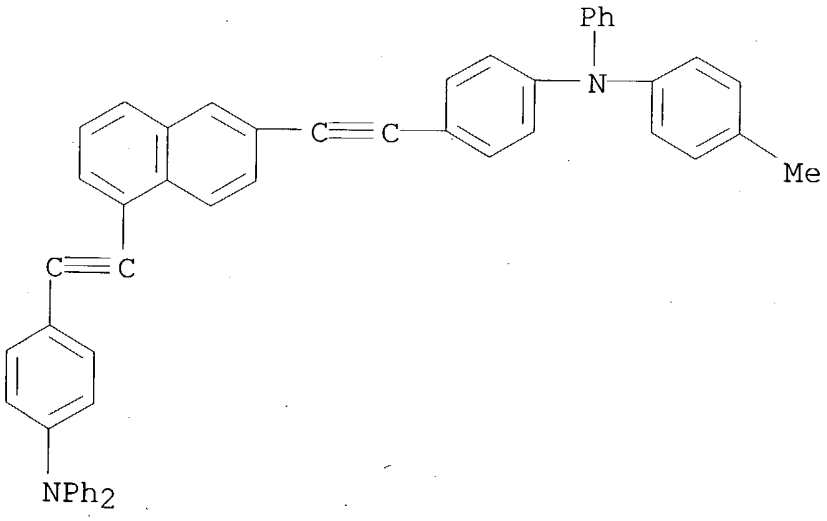


RN 136993-92-5 HCA

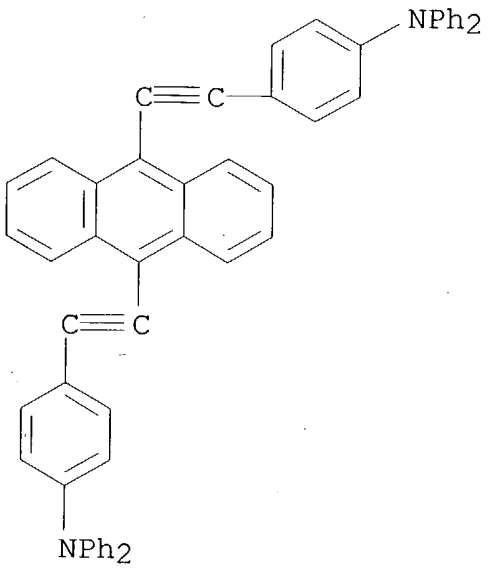
CN Benzenamine, 4,4'-(1,4-naphthalenediyldi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



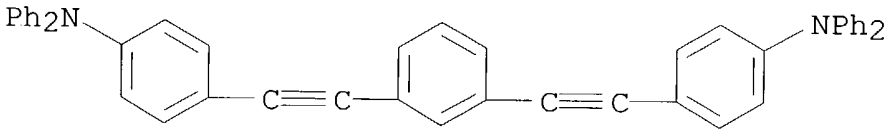
RN 136993-93-6 HCA
CN Benzenamine, 4-[[5-[[4-(diphenylamino)phenyl]ethynyl]-2-naphthalenyl]ethynyl]-N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



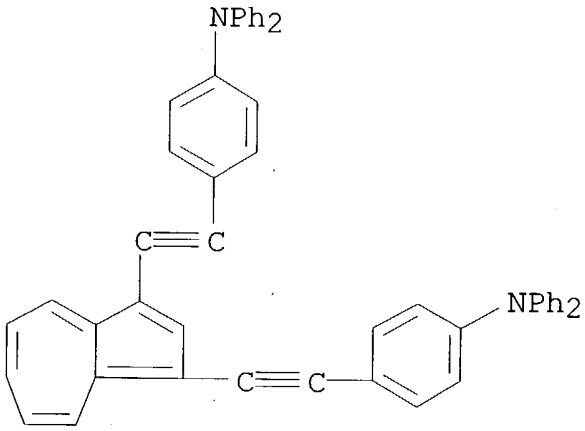
RN 136993-94-7 HCA
CN Benzenamine, 4,4'-(9,10-anthracenediyldi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 136994-00-8 HCA
CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 136994-01-9 HCA
CN Benzenamine, 4,4'-(1,3-azulenediyldi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog photoreceptor **charge transporting** agent; acetylene **charge transporting** agent electrophotog
IT Electrophotographic photoconductors
(contg. acetylene deriv. as **charge-transporting** agent)
IT **136993-88-9 136993-89-0 136993-90-3** 136993-91-4 **136993-92-5 136993-93-6** **136993-94-7** 136993-95-8 136993-96-9 136993-97-0 136993-98-1 136993-99-2 **136994-00-8 136994-01-9** 137015-78-2
(**charge-transporting** agent, electrophotog. photoreceptor contg.)

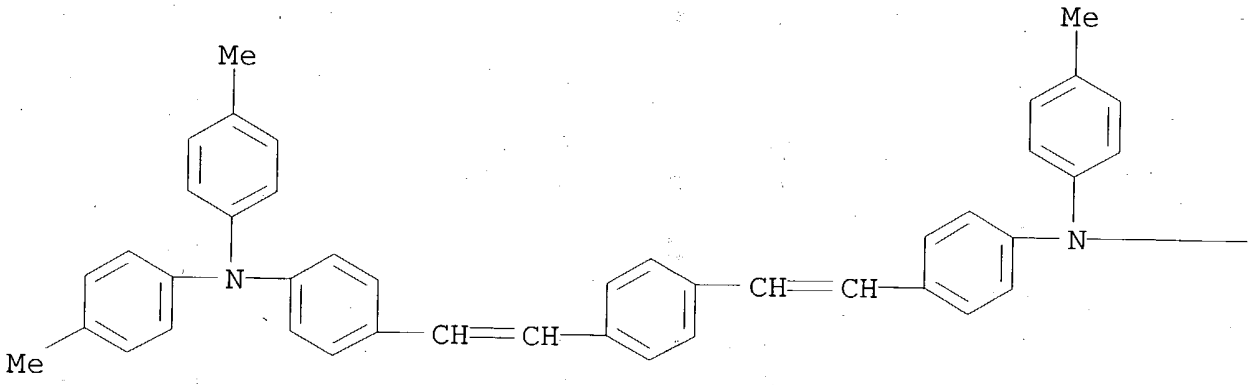
L37 ANSWER 25 OF 25 HCA COPYRIGHT 2004 ACS on STN
86:49147 Photoconductive element exhibiting persistent conductivity. Bailey, David S. (UK). Research Disclosure, 149, 82-8 (No. 14941) (English) **1976**. RD 149041 19760910. CODEN: RSDSBB. ISSN: 0374-4353. PRIORITY: RD 1976-149041 **19760910**.
AB An electrophotog. photoconductive compn. exhibiting persistent cond. is comprised of a charge-generating layer contg. .gtoreq.1 pyrylium salt and .gtoreq.1 polymer having an alkylidene diarylene group as a repeating unit and a **charge-transporting** layer contg. an org. photoconductor and a protonic acid. The photoconductive compn. with presistent cond. produces electrostatic **images** with large voltage differentials for good **image**-background toning and has the capacity of providing a large no. of copies from a single exposure without the prepn. of a permanent master. The resultant conductive **image** pattern which may persist for many h can be erased by heating to return the photoconductive compn. to its original state for reuse. Thus, an elec. conductive film support was coated with a **charge-transporting** layer contg. a polycarbonate (Lexan 145) 0.8, tri-p-tolylamine 0.53, pentafluorobenzoic acid 0.03, and CHCl3 9.7 parts, dried to yield a 3-.mu. layer, overcoated with a charge-generating layer contg. a Bisphenol A polycarbonate 32.2, 2,6-diphenyl-4-(4-dimethylaminophenyl)thiapyrylium perchlorate 6.80, and CH2Cl2 1455 g, and dried to a 10-.mu. layer to give an electrophotog. photoconductive film which produced excellent persistent conductive **images** with low-intensity light exposures.
IT **55035-43-3**
(photoconductive compns. contg. pyrylium salt, protonic acid and, for persistent conductive **image** formation for

electrophotog.)

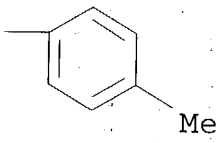
RN 55035-43-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST electrophotog persistent conductive **image**; photoconductor persistent cond electrophotog; protonic acid photoconductor electrophotog

IT Photography, electro-
(photoconductors, org., contg. protonic acids for persistent conductive **images**)

IT 14039-00-0
(photoconductive compns. contg. org. photoconductor, protonic acid and, for persistent conductive **image** formation for electrophotog.)

IT 24936-68-3, uses and miscellaneous
(photoconductive compns. contg. org. photoconductor, protonic acid, pyrylium salt and, for persistent conductive **image** for electrophotog.)

IT 88-89-1 96-97-9 96-99-1 99-34-3 345-16-4 602-94-8 610-27-5 610-30-0 2516-95-2
(photoconductive compns. contg. org. photoconductor, pyrylium salt and, for persistent conductive **image** formation for electrophotog.)

IT 1159-53-1 4316-51-2 **55035-43-3** 61600-38-2 61600-39-3
(photoconductive compns. contg. pyrylium salt, protonic acid and, for persistent conductive **image** formation for electrophotog.)